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FM 11-16

DEPARTMENT OF THE ARMY FIELD MANUAL

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SIGNAL ORDERS RECORDS AND REPORTS



HEADQUARTERS, DEPARTMENT OF THE ARMY

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SIGNAL ORDERS, RECORDS, AND REPORTS

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CHAPTER 1

INTRODUCTION

1. Purpose and Scope

a. This manual is a guide for staff signal officers and for the commanders and staff officers of U. S. Army Signal Corps organizations. It covers the principles, procedures, and processes involved in preparing the signal estimates, plans, orders, records, and reports incident to providing signal support of combat operations.

b. The manual is designed primarily for the division signal officer; however, it develops principles that may be adapted for use also at higher and lower levels of command.

c. FM 101-5 should be used as a companion text with this manual. It contains the general principles of staff organization and procedures for commanders and their staffs.

d. The material presented herein is applicable without modification to both atomic and nonatomic warfare.

2. References

A more detailed discussion of certain subjects within the scope of this text may be found in publications listed in appendix I.

CHAPTER 2

SIGNAL STAFF PROCEDURES

3. Command and Signal

The primary goal of any combat organization is success in battle. Signal support provides the division commander with the means through which he may exert the command control needed for effectiveness in modern combat. The division signal officer is the special staff officer who advises the commanding general in signal matters and coordinates and supervises signal support in the division.

4. Staff Signal Planning

a. Every impending combat operation requires careful staff planning which includes signal planning. In the division, the signal staff planning for the commanding general is performed by the division signal officer. Signal planning encompasses all staff actions taken by the division signal officer in preparation for projected operations. The major signal planning techniques are signal estimates, signal plans, and signal orders. Figure 1 shows their interdependence.

b. During the planning process, the signal officer advises the commander and his staff on the capabilities and limitations of the available signal support. It is essential that the signal officer enter into planning as early as possible to provide the maximum benefit of his advice to the commander and

staff. He plans concurrently with other staff officers in determining signal support requirements.

c. In conducting the planning program, the division signal officer must consider the signal plans and directives of higher headquarters and coordinate with signal sections of higher, subordinate, and adjacent headquarters. This will assist him in determining his own signal support requirements. Thus, various echelons may carry out signal planning programs concurrently, with a reduction in the overall signal planning time.

5. Coordination

The division signal officer takes the initiative in establishing and maintaining liaison to make sure that he is informed and consulted as early as possible when the tactical situation changes or a new operation is contemplated.

a. The division signal officer coordinates his signal plans and signal support operations with all members of the general staff.

- (1) The chief of staff is the principal coordinating agent of, and advisor to, the commanding general. The signal officer may coordinate with the chief of staff in matters pertaining to the determination of phases and schedules for planning, designation of planning responsibilities, coordination of the planning process, and consolidation of the planning results for presentation to the commanding general.

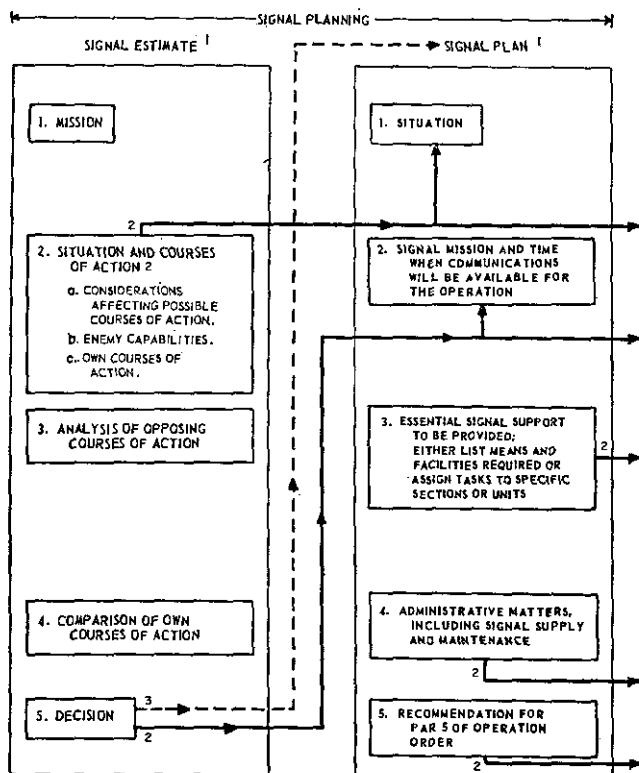
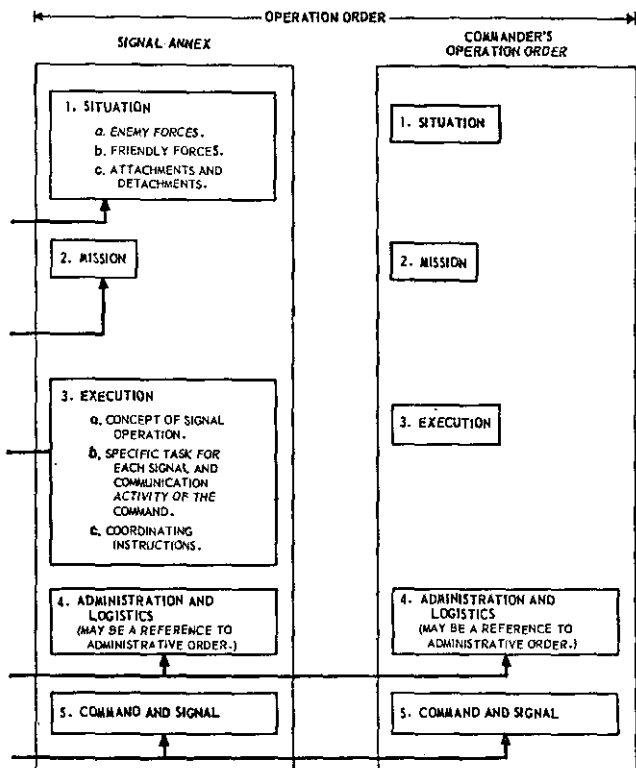


Figure 1. Relationship of major signal planning techniques to the combat operation order.



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Figure 1—Continued.

- (2) The assistant chief of staff, G1, is the personnel officer of the command. The signal officer coordinates with him in signal personnel matters with respect to strength, replacements, and morale. He also coordinates with G1 on movements of the headquarters, its internal arrangement and operation, and space allocation in the headquarters area. He coordinates with G1 on the administrative functioning of the headquarters, which includes the courier service (postal service supplementation), internal communication control, and internal messenger service activities operated by the adjutant general.
- (3) The assistant chief of staff, G2, is the intelligence officer of the general staff. The signal officer coordinates with him in activities concerning electronic and communication intelligence and counterintelligence. G2 coordinates with the signal officer on the evaluation and interpretation of captured enemy signal documents and equipment, and on pictorial and special signal support requirements for intelligence operations.
- (4) The assistant chief of staff, G3, coordinates organization, training, and operational activities of the command. The signal officer confers with him on the organization and equipment of signal units assigned and attached to the com-

mand, the signal equipment of the command, the training of personnel involved in signal support activities, combat operations activities (including signal support of tactical missions of the command), selection of command posts for the headquarters, physical security measures, preparation of operation orders, and priorities for the issue of signal equipment in critical supply.

- (5) The assistant chief of staff, G4, is the logistics officer of the general staff. The signal officer coordinates with him in the logistics of signal support, to include procurement, transportation, storage, distribution, maintenance, and evacuation of signal supplies. He also coordinates with G4 in the establishment of signal supply and maintenance facilities, the allocation of critical signal supplies in accordance with established priorities, and the preparation of administrative orders.

b. The division signal officer must consult members of the special staff on signal support requirements for their activities, and on the locations of units and activities over which they have operational control. In addition, the signal officer coordinates with special staff sections in technical services and the facilities they provide in support of signal activities.

c. The division signal officer coordinates with the corps signal officer on—

- (1) Technical directives issued by the corps signal officer.
- (2) Signal operation instructions (SOI), standing signal instructions (SSI), and standing operating procedures (SOP).
- (3) Routes of communication and signal centers of the area communication system.
- (4) Corps signal communication facilities, operated by corps, in the division area.
- (5) Corps signal support operations in the division area.
- (6) Tactical plans and impending operations.
- (7) Requirements for signal personnel.
- (8) Use of civil signal facilities.
- (9) Technical reports required by the corps signal officer.
- (10) Signal requirements for special missions.
- (11) Priorities for signal supply and maintenance.
- (12) Electronic warfare combat surveillance activities.

d. The division signal officer coordinates with the army signal officers on—

- (1) Technical directives issued by the army signal officer.
- (2) SOI and SSI matters.
- (3) Routes of communication and signal centers of the area communication system.
- (4) Army signal support operations in the division area.

- (5) Signal supply and maintenance activities.
- (6) Captured enemy signal supplies and equipment.
- (7) Pictorial activities.
- (8) Use of civil and existing enemy signal facilities.
- (9) Technical reports required by the army signal officer.
- (10) Requirements for personnel.
- (11) Electronic warfare and combat surveillance activities.

6. Planning Program

a. The division signal officer bases his planning program upon assigned planning responsibilities and upon the headquarters planning program. He analyzes the work to be done and divides it into a series of tasks to meet deadlines established by the planning program of the headquarters.

b. When a planning program is incorporated in the headquarters SOP, the division signal officer may include a signal planning program in the SOP of his section.

7. Steps in Signal Planning

The normal phases of the headquarters planning program are described in FM 101-5. To carry a signal planning program through these phases, the division signal officer follows a series of steps, typical of which are the eight steps described in the subparagraphs below. The amount of detail in signal planning depends upon the time available,

the desires of the commander, and the requirements established by the chief of staff. Some of the planning processes may consist of rapid mental calculations when time is limited and the complexity of the signal operation is not too great. When the impending combat operation is normal for a division, the division signal officer's considerations are so abbreviated that some of them may appear to have been omitted. Such abbreviated planning is possible because TOE authorizations of signal personnel and equipment and the previously established SOP provide for appropriate signal support under normal circumstances. For combat operations that are not normal for a division, more time is necessary to enable the division signal officer to consider each of the following signal planning steps:

a. Step 1—Mission. Determine the overall signal support mission from the division's overall mission established by the commander.

b. Step 2—Detailed Requirements. Break down the overall signal support mission into the several detailed requirements necessary to accomplish the mission. These may include—

- (1) Personnel requirements.
- (2) Equipment, supply, and maintenance requirements.
- (3) Logistical support required for each phase of the operation.
- (4) Wire communication requirements, including wire construction, telephone and teletypewriter operations, facsimile, and carrier.

- (5) Radio communication requirements, including radio relay.
- (6) Messenger and message center requirements.
- (7) Pictorial support needed for each phase of the operation.
- (8) Additional or special training required.

c. Step 3—Coordination. See paragraphs 4c and 5.

d. Step 4—Signal Estimates. Prepare a signal estimate for each of the detailed requirements, and select the best course of action for each. Prepare signal estimates to cover special requirements, such as signal intelligence, cryptography, special equipment, and countermeasures. Consider capabilities and limitations of available signal troops and equipment at this stage of planning.

e. Step 5—Tentative Plans. Develop tentative signal plans dealing with each phase of the operation.

f. Step 6—Coordination. Coordinate with each staff section and the signal sections of higher, lower, and adjacent headquarters to insure that planning at all echelons is properly integrated. See paragraphs 4c and 5.

g. Step 7—Draft Plans. Develop a draft signal plan, and submit it to the general staff section having primary interest.

h. Step 8—Final Plan. Change the draft signal plan as required by the commander's deci-

sion, and submit it for consolidation with the approved plans of other staff sections. If continued estimate of the signal situation reveals the need for changes in the signal plan, obtain the commander's approval to make the changes.

8. Issuance of Orders

The final approved signal plan provides signal data for the commander's operation order. The signal data are included in paragraphs 4 and 5 of the operation order, and in the signal annex that is attached to the order if required. Paragraphs 4 and 5 of the operation order (ch. 5), and the signal annex (ch. 5), contain the information and instructions necessary to provide adequate signal support.

9. Supervision

An important responsibility of the division signal officer is the supervision of signal support activities of the entire command. He discharges this responsibility continuously throughout all phases of an operation, from the initial planning phase, through the issuance of orders, and during and after the operation.

CHAPTER 3

SIGNAL ESTIMATE

10. Estimate of the Situation

Basically, an estimate of the situation is a study. It is a logical and orderly examination of pertinent factors to determine the most appropriate course of action a command may follow to accomplish its mission.

11. Signal Estimate

Signal estimates are used for two purposes. They assist the commander in making his estimate, and they assist the signal officer in determining how he may best employ available signal means to support the course of action decided upon by the commander.

a. For the Commander.

- (1) Significant signal factors that will influence any course of action the commander may consider are summarized for use in paragraph 2 of the commander's estimate.
- (2) The impact on each of the commander's courses of action caused by the effects of enemy courses of action on signal factors is analyzed for use in paragraph 3 of the commander's estimate.

b. For the Signal Officer. Factors bearing upon the provision of signal support for a combat operation are systematically analyzed. The practicable signal courses of action are listed, analyzed, and compared. If more than one are equally feasible, the signal officer selects the course of action that best satisfies future requirements, or he may combine the best points of two or more courses of action. In any case, he arrives at one course of action, and clearly states his decision. This signal estimate becomes the basis of the signal plan, as shown in figure 1.

12. Revision

A changing tactical situation may require changes in the signal support provided. Continuous revision of the signal estimate allows the signal officer to constantly advise his commander, and permits him to decide intelligently whether to follow the current signal course of action, modify it, or select a new one.

13. Format

The general format to follow in making an effective estimate is given in FM 101-5. The signal officer guides himself by this form regardless of whether circumstances permit a carefully written document or only a brief mental assessment of the situation. The division signal officer usually makes his estimate mentally.

CHAPTER 4

SIGNAL PLAN

14. General

a. The signal plan is based on paragraph 5 of the signal estimate, and contains instructions and information needed to furnish signal support for the proposed operation. It contains signal data that are used in the commander's operation order (fig. 1).

b. The signal plan may be mental. If written, it may refer to the SOP, SOI, and SSI, but does not repeat the instructions and information given therein. If the impending operation requires variances from, or additions to, the SOP, SOI, and SSI, the modifications are stated in the signal plan.

c. When a division signal plan is published, it usually constitutes paragraphs 4 and 5, and the signal annex, of a commander's operation plan. However, the signal officer may be required to submit a written signal plan for the commander's approval. In this instance, it contains recommended signal portions of paragraphs 4 and 5, and the signal annex, of the commander's operation plan.

d. The signal plan follows the major paragraphing format of the operation plan shown in FM 101-5, but contains information and instructions that apply directly to signal matters.

15. Basic Factors

The content of each paragraph of the signal plan is discussed below. Information on the heading and ending of the plan is included in the sample signal plan in appendix II.

16. Paragraph 1. SITUATION

a. Enemy Forces.

- (1) Make reference to the current periodic intelligence reports or to the intelligence annex.
- (2) Describe enemy activities and capabilities that directly affect signal operations. Include only that information which is not contained in the current periodic intelligence report or the intelligence annex to the operation order.

b. Friendly Forces. Supply information that may have an effect on signal support for the impending operation. Include information on—

- (1) Task organization. (Or make reference to the task organization annex.)
- (2) Command posts and signal installations. List and locate these installations by coordinates, or make reference to the overlay that presents this information.
- (3) Signal units of higher or adjacent headquarters that will provide signal support to the command.

c. Attachments and Detachments. Include information on—

- (1) Signal units that are or will be attached to the command, if these units are not already shown in the task organization.
- (2) Signal units that are to be detached during the operation.

17. Paragraph 2. MISSION

Present a clear, concise statement of the signal mission. Include that portion of the division's mission that is necessary for an understanding of the signal mission.

18. Paragraph 3. EXECUTION

a.. Concept. State your concept of the manner in which signal support is to be provided. For example, indicate the particular signal means that will be used as the primary means of communication and which means will supplement or back up the primary means. Present this statement briefly and in general terms.

b. Tasks of Subordinate Units. Assign signal support tasks to subordinate units in consecutively lettered subparagraphs. Use one subparagraph for each of the subordinate units to which tasks are assigned.

c. Coordinating Instructions. Include instructions that apply to more than one unit, when coordination is required, or to the division as a whole.

19. Paragraph 4. ADMINISTRATION AND LOGISTICS

a. Make reference to the governing administrative order. This may be the current administrative

order, if it is to remain in effect for the impending operation, or it may be a new administrative order not yet in effect.

b. Indicate any deviations from, or additions to, the information and instructions contained in the SOP or the administrative order.

20. Paragraph 5. COMMAND AND SIGNAL

Recommend information to be included in paragraph 5 of the operation order or plan. Identify the order or plan to which the recommendation pertains. See paragraph 26 for details on the contents of paragraph 5 of the operation order.

CHAPTER 5

SIGNAL ORDERS

Section I. INTRODUCTION

21. General

An order is a means used to cause an action to take place. FM 101-5 describes the two general classes into which orders are divided: routine and combat.

22. Routine Orders

This class of order generally involves administrative actions. Routine orders are adequately explained in governing regulations and are, therefore, outside the scope of this chapter.

23. Combat Orders

This chapter deals with operation orders, signal operation orders, signal annexes to operation orders, and maps and overlays used by the division signal officer. Other signal orders are covered in chapters 6 and 7. Signal combat orders are used by the division signal officer to direct and control the signal support of a division engaged in a combat operation.

Section II. OPERATION ORDER

24. General

a. The operation order is a means by which the commander directs his division in an operation. Paragraph 4 and paragraph 5 of the order include the instructions governing signal support. When these instructions are voluminous, they are placed in the administrative order (par. 25) and the signal annex (par. 26), and appropriate references are made to them in paragraphs 4 and 5 of the operation order.

b. At division level, time limitations may preclude the preparation of written signal estimates and signal plans. In this case, the signal portions of the operation order are prepared on the basis of the signal officer's mental estimate and plan, and reference may be made to the existing SOP.

c. The general format and instructions for issuing operation orders are given in FM 101-5. Signal aspects of paragraph 4 and paragraph 5 are discussed in this section.

25. Paragraph 4. ADMINISTRATION AND LOGISTICS

a. G4, in coordination with G1, furnishes G3 with information to be used in paragraph 4 of the operation order. In a division, the contents of paragraph 4 are usually so voluminous that the information is disseminated in an administrative order.

b. The division signal officer coordinates with G4 on signal support instructions to be published

in paragraph 4 of the operation order or in the administrative order. He proposes necessary instructions on the logistics of signal support. These instructions may include the procurement, transportation, storage, distribution, maintenance, and evacuation of signal supplies. They also may include the number and locations of signal supply and maintenance facilities, the allocation of critical signal supplies in accordance with established priorities, and any other administrative or logistical signal matters not covered by the SOP.

26. Paragraph 5. COMMAND AND SIGNAL

The division signal officer furnishes information for inclusion in this paragraph. The paragraph covers orders and instructions governing signal communication and command post locations of the headquarters. If possible, command post locations of major subordinate headquarters may be included.

a. Signal. This refers to standard instructions, or to the signal annex when used. When the signal annex is not used, this subparagraph contains detailed instructions, references to the applicable SOI, restrictions on the use of signal communication, and information on pyrotechnics.

b. Command. This indicates initial command post locations of division headquarters and major subordinate headquarters. It may also include the command post location of the next higher headquarters.

c. Routes and Signal Centers of the Area Communication System. This indicates major routes

of signal communication, and locates the principal signal centers of division headquarters.

d. The following example shows paragraph 5 of an operation order that does not use a signal annex:

5. COMMAND AND SIGNAL.

a. Signal.

(1) Index 1-9, SOI.

(2) Radio listening silence until time of attack.

(3) Pyrotechnic signal to fire concentration: signal, ground, (indicate exact nomenclature).

b. Command.

(1) Division CP HESDIN (710423).

(2) Bat Gps report locations.

(3) VII Corps CP ST POL (165118).

c. Routes and Signal Centers of the Area Communication System.

(1) Div Tns (702244)—Div Main (710423)
—Div Adv (719601).

(2) Moret—Earlaix—Thorenas.

(3) Magdalen—Jolyfier—Chenevarie.

d. The following example shows paragraph 5 of an operation order that uses a signal annex:

5. COMMAND AND SIGNAL.

a. Signal. Annex D, Signal.

b. Command. Units report CP locations.

Section III. SIGNAL OPERATION ORDER

27. General

a. The signal unit commander's operation order

is commonly referred to as a signal operation order. The format is the same as that used for the division commander's operation order (FM 101-5). It differs from the division commander's operation order only in purpose and details of instruction.

b. A signal operation order directs signal units to install, operate, maintain, and modify the signal support facilities required to support an impending operation.

28. Basic Factors

The signal operation order should be made as brief as possible. This can be done by making references to routine procedures in appropriate sections of the signal unit SOP. Instructions not contained in the SOP or in the division SOI must be included in the signal operation order.

29. Issuance

The signal operation order is seldom issued in complete written form for a division signal organization. Usually, it is issued orally in fragmentary form. This method is used when there are time limitations or when there is no need for the written form. A well-prepared SOP will contain all routine instructions, thereby eliminating the requirement for all but on-the-spot fragmentary orders, or modifying instructions. These are given as the need arises.

Section IV. SIGNAL ANNEX

30. General

a. The signal annex to an operation order is used when the signal instructions are too voluminous to be included in paragraph 5 of the order. It is based on the signal plan (fig. 1), and is made as short as possible by referencing routine signal instructions contained in the SOP.

b. A signal annex becomes a part of the commander's operation order, even though it may be distributed at a different time.

c. The general format for annexes is given in FM 101-5. The signal annex, which follows the major paragraphing format of operation order, contains information and instructions that directly affect signal support. The contents of each part of the signal annex are discussed in the paragraphs below. Appendix IV shows a sample signal annex.

31. Heading

The heading of the signal annex is the same, except in title, as the heading of the operation order. See FM 101-5 for a description of the heading format.

32. Paragraph 1. SITUATION

a. *Enemy Forces.* Include known locations of enemy wire lines, radio stations, telephone switching centrals, and signal supply points. Reference may be made to the intelligence annex to the operation order or to other intelligence reports.

b. *Friendly Forces.* Include pertinent information on the size of force, mission, formation, line

of departure, boundaries, and location of agencies with which communication must be maintained. Give information on existing signal facilities, both commercial and military. List command posts and routes and signal centers of the area communication system. If this information is on an overlay, refer to the overlay and attach it to the signal annex as an appendix.

c. Attachments and Detachments. List signal units or teams attached, or detached, for the current operation.

33. Paragraph 2. MISSION

State the signal mission, and indicate when the initial signal system will be ready for operation.

34. Paragraph 3. EXECUTION

a. In the first subparagraph, summarize the signal officer's concept of the signal support effort for the operation.

b. In separate subparagraphs, assign specific tasks to each signal and communication activity of the command. Begin with the major assigned signal unit, and follow with other subordinate units and attached units.

c. Reserve the last subparagraph for coordinating instructions applicable to two or more organizations of the Command. Individual subparagraphs may be used for each signal communication agency or facility. Coordinating instructions may include such items as special instructions for communication centers of more than one unit, restric-

tions upon the general use of radio, unusual organization or operation of radio nets, and special priorities on telephone calls.

d. When appendixes are needed for coordinating instructions, reference them in this paragraph. Radio plans and pictorial plans are examples of items that might be included as appendixes.

35. Paragraph 4. ADMINISTRATION AND LOGISTICS

Coordinate this information with G4. Give instructions concerning signal and logistics. Reference may be made to the division administrative order when pertinent instructions, such as the following, are covered:

a. Special priority of signal troops or vehicles on roads.

b. Locations of signal depots.

c. Signal distribution points.

d. Special instructions concerning the issue of signal supplies.

36. Paragraph 5. COMMAND AND SIGNAL

Indicate the index to the current SOI. Give the location of the division signal officer if he is not located at the command post.

37. Ending

a. Acknowledgment instructions follow the last paragraph. These may consist simply of the imperative: "Acknowledge."

b. The original of the signal annex of an operation order is signed by the commander, or by the

chief of staff for the commander. Copies are authenticated by G3. Appendixes, tabs, and inclosures are signed and authenticated in the same manner as the basic annex.

Section V. MAP AND OVERLAY SIGNAL ORDERS

38. General

Maps and overlays are used to great advantage as signal orders. They save preparation time for the maker and study time for the recipient.

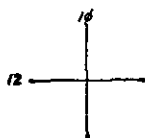
39. Format

a. A map is converted into an order by placing a heading, an ending, and other written instructions in the margin.

b. Overlays are prepared in a similar manner, except that written portions of the order may appear anywhere on the overlay. Overlay orders have certain advantages over map orders. An overlay carries less extraneous information than its basic map. Also, the procurement and distribution problem is less complex, because maps that were previously issued throughout the command may be used as basic documents on which the prepared overlay order is superimposed. By this means, the same basic map may be used for subsequent overlay orders, without requiring new procurement and distribution or becoming unintelligible from repeat markings.

c. General instructions for the preparation and use of maps and overlays as orders are given in

MAP: FRANCE AND BELGIUM 1:50,000-72-SI POL



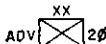
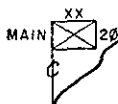
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AND RETURNED TO BATTALION
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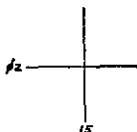
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LT COL

OFFICIAL:
Maggi
MAZZI
S3

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IS HEAVILY MINED
ROUTE CHANGED TO



COMPLETED 230600 OCT 65
CABLE ON LEFT SIDE OF ROAD
ENTIRE LENGTH.
SGT CORLEY



FM11-16-20

Figure 2. Overlay-type fragmentary signal order.

FM 101-5. Figure 2 shows an overlay prepared for use as a fragmentary signal order.

40. Overlay-Type Fragmentary Signal Order

a. Overlay orders (fig. 2) are particularly useful in providing instructions to wire construction personnel. In the sample overlay order, a modification to the order (changing the route) is made by the man executing the order, and a report of action is made to the originator—all on the same overlay. The sample overlay can be used as a line route map to show where the line is located, thereby facilitating maintenance of the wire circuits. As a valid record, the overlay order can be used as one of the bases for operational reports discussed later in this manual. Sergeant Corley's report of a heavily mined section of road, written on the overlay, adds to the value of the order. This information can be used in the conduct of other signal operations.

b. Overlay signal operation orders may be used to advantage for other signal activities. For example, the overlay order may be used to designate messenger routes, indicating danger points and locations of units. Messengers report changes in command post locations by marking the map or overlay accordingly.

CHAPTER 6

STANDING OPERATING PROCEDURE

41. General

a. At division level, the signal officer is directly responsible for the preparation of two standing operating procedures (SOP). One is the signal section SOP, which becomes part of the commander's SOP, and the other is the signal unit SOP.

b. The two SOP's usually are prepared in two separate documents, but the division signal officer may direct their consolidation in a joint signal SOP. When a joint signal SOP is used, key operational personnel of the signal organization collaborate with signal section personnel to develop and prepare the SOP.

42. Format

Signal SOP's are prepared in accordance with the format and general content described and illustrated in FM 101-5.

43. Signal Section SOP

a. Basis. Development of the division signal section SOP will be based on the command SOP and the SOP of the corps signal section.

b. Scope. The signal section SOP contains detailed instructions on the organization and routine

operations of the section. These instructions cover staff supervision of the signal support activities of the command; the operational activities of the division signal organization; routine procedures for providing the signal communication system; the signal supply, maintenance, and pictorial services required for division operations; and the organization of the signal system for specific routine division operations. When this SOP is combined with the signal unit SOP, the procedures must be prescribed in sufficient detail to permit major elements of the division signal organization to conduct routine operations. The division signal officer, in developing items for inclusion in his SOP, considers the following signal subjects:

- (1) Message centers.
- (2) Messenger communication.
- (3) Wire communication, including carrier, facsimile, and teletypewriter.
- (4) Radio relay communication (usually included with wire communication).
- (5) Radio/wire integration system.
- (6) Radio communication.
- (7) Pictorial services.
- (8) Visual communication.
- (9) Sound signals.
- (10) Signal supply and maintenance.
- (11) Signal security.
- (12) Miscellaneous.
 - (a) Reference to SOL.
 - (b) Normal location of signal officer.

- (c) Road priorities.
- (d) Location of command posts.
- (e) Functions of the unit signal officer.

44. Signal Unit SOP

a. Basis. When the signal unit SOP is prepared as a separate document, it is based upon the division SOP and the division signal section SOP.

b. Scope. The signal unit SOP contains routine instructions needed by the signal organization to perform its mission. Instructions cover operational procedures that affect the entire organization, and specific operational procedures that pertain to operations carried on by various elements within the signal organization. When instructions are long and complex, they may be placed in appendixes to the SOP.

c. Content. The paragraphs below outline the subjects usually covered by a signal unit SOP. The outline may be expanded or abridged as necessary.

45. General Operational Procedures

General command and administrative type organizational and operational instructions are contained in this section. Instructions of this type are explained and illustrated in FM 101-5.

46. Specific Operational Procedures

This section contains instructions for accomplishing the operational mission of the signal unit. The following items, which may be subdivided, are included:

a. Wire Construction.

- (1) Number of trunks to be installed to subordinate units.
- (2) Lateral trunks to be installed.
- (3) Types of construction to be employed.
- (4) Assignment of wire teams to subordinate units.
- (5) Line installation priorities.
- (6) Location and installation of the construction center.
- (7) Line loading and repeater equipment.
- (8) Use of commercial or enemy wire lines.
- (9) Long local priorities.
- (10) Cable splicing.
- (11) Assignment and procedures for maintenance of wire lines.
- (12) Line tagging code and procedure.

b. Wire Operations.

- (1) Location of the telephone switchboards at command posts.
- (2) Telephone switchboard installation and operation.
- (3) Designation of local circuits to be installed.
- (4) Local installation priorities.
- (5) Telephone numbers of locals.
- (6) Location of manual and semiautomatic teletypewriter equipment.

- (7) Installation and operation of carrier equipment.
- (8) Location and operation of facsimile equipment.
- (9) Location and installation of radio terminal and repeater stations.
- (10) Operation and adjustment of radio relay equipment.

c. Radio/Wire Integration Operation.

- (1) Location of stations.
- (2) Normal operation.
- (3) Special training in operational procedures for radio and wire personnel.

d. Radio Operation.

- (1) Location and operation of radio stations.
- (2) Normal radio nets.
- (3) Special radio nets.
- (4) Monitoring and guarding of frequencies.
- (5) Radio restrictions.

e. Signal Center Operation.

- (1) Location, installation, and operation of principal signal centers.
- (2) Cryptocenter operations.
- (3) Scheduled and special messengers.
- (4) Marking of messenger vehicles.

f. Signal Supply.

- (1) Location of signal supply points and depots.
- (2) Transportation of supplies.
- (3) Requisition and issue of signal supplies.
- (4) Signal supply planning.

(5) Evacuation and destruction.

(6) Records and reports.

g. Signal Repair.

(1) Location of signal repair units.

(2) Assignment of repair teams to subordinate units.

(3) Wire recovery and service teams.

(4) Receipt and return of items for repair.

(5) Technical inspection of signal equipment.

h. Pictorial Support.

(1) Ground tactical photography.

(2) General intelligence photography.

(3) Strategic intelligence photography.

(4) Technical intelligence photography.

(5) Operational record photography (still, motion picture, and television).

(6) Public and troop information photography.

(7) Training photography.

(8) Miscellaneous photography.

(a) Identification coverage.

(b) Situation map coverage.

(c) Coverage for illustration of records and reports.

(d) Legal and investigative photography.

(e) Psychological warfare photography.

(9) Film and equipment exchange services.

i. Power.

(1) Location.

- (2) Installation and maintenance.
- (3) Operation.
- (4) Standby systems.

j. Captured Enemy Signal Equipment.

- (1) Reporting.
- (2) Handling.
- (3) Guarding.

CHAPTER 7

SIGNAL OPERATION INSTRUCTIONS AND STANDING SIGNAL INSTRUCTIONS

Section I. INTRODUCTION

47. General

The division signal officer is responsible to his commander for technical coordination and control of all signal support activities in which troops assigned and attached to the divisions are engaged. To a great extent, he discharges this responsibility through instructions that he develops for inclusion in the combat orders previously discussed in this manual. Signal communication instructions that are primarily technical in nature are published in signal operation instructions (SOI) and standing signal instructions (SSI).

48. Definitions

a. *SOI*. This is a series of orders issued for technical control and coordination of the signal communication activities of a command. Each order of the series usually remains in effect for a short period of time, and is then superseded by a new edition of the same order.

b. *SSI*. This order contains instructions necessary for the operation of signal communication

equipment, agencies, and means. Instructions for the use of data in the SOI are contained in the SSI.

Section II. SIGNAL OPERATION INSTRUCTIONS

49. General

a. An SOI contains technical instructions, subject to frequent change, that are required in the employment of signal communication. Since the instructions apply to signal communication systems throughout the division, they aid in welding the systems into an integrated signal communication network. In addition, the SOI includes related miscellaneous information, such as official time designations and data on the phases of the sun and moon.

b. When the SSI is not published, instructions that ordinarily are published in the SSI are included in the SOI.

c. In a division, instructions published in the SOI are prepared in such detail that it is unnecessary for subordinate commands to prepare SOI's for their use. When required, extracts of the division SOI are prepared by the organizations that need them.

50. Responsibility

The SOI is prepared, issued, and usually authenticated for the commander by the division signal officer. The entire SOI may be authenticated as a complete document, but normally each item (par. 55c) is authenticated as an individual unit.

51. Distribution

a. To reduce the probability of compromise, distribution of the SOI is limited to those organizations that require it. Distribution is made to subordinate units, next higher level headquarters, and headquarters of adjacent commands.

b. When preparing the distribution list, give basic consideration to the actual need for each SOI item. The general rule is that organizations whose activities are governed by instructions contained in an SOI item are allocated the smallest possible number of copies in the distribution list for that item. Commands subordinate to those in the distribution list may receive extracts, when necessary.

52. Classification and Copy Numbering

a. Each portion of the SOI is classified according to its content, as prescribed by AR 380-5. The classification is marked or stamped at the top and bottom of each page of the classified portion. The assembled SOI is assigned the same classification as its most highly classified portion.

b. Each copy of the SOI is assigned a copy number to facilitate distribution and control, but the SOI is not designated a registered document.

53. Security

a. SOI's contain information that is of particular value to the enemy because it is a means through which additional intelligence may be gained. Therefore, a complete SOI should not be

taken forward of a battle group or separate battalion command post (CP).

b. When an SOI is compromised, the fact must be reported and the SOI replaced immediately. Since the preparation of a complete replacement SOI is a complicated and time-consuming process, replacement SOI and the procedures for replacement should be prepared in advance.

54. Emergency Replacement Procedure

The normal procedure for replacement of a compromised SOI is as follows:

a. Establish a procedure that will insure that the issuing headquarters will be notified immediately after discovery of a possible loss or compromise of the SOI (or any of its items or extracts).

b. Prepare and distribute a reserve or emergency SOI, and include instructions to place it in effect only upon receipt of a specific directive from the issuing commander.

c. When notified of the possible loss or compromise of the SOI (or any of its items or extracts):

- (1) Coordinate with G2 to determine whether it will be advisable to declare the SOI compromised.
- (2) If the SOI, or portion thereof, is declared compromised, place the reserve SOI, or an appropriate portion thereof, into effect. The order may also contain instructions for the destruction of all existing copies of the compromised document.

- (3) Distribute a new reserve SOI, or new reserve items, as soon as possible.

55. Format

a. There is little difference between the SOI and the SSI in form, and subject matter. They are designed so that the instructions contained in one complement the instructions contained in the other.

b. The following paragraphs describe the format used in assembling the SOI. This section may be used as a guide for the preparation of both the SOI and the SSI. A sample SOI is shown in appendix V.

c. The SOI contains a series of individual entities, called items. Each item contains instructions on one particular subject. The general form for an SOI item corresponds to that of other types of orders. Each item has a heading, a body, and an ending.

56. Heading

The heading contains the designation of the issuing headquarters, the place of issue, the title of the item, the item number, and the date and time when the item will become effective.

57. Body

The body contains the operational instructions and information. The instructions, used in conjunction with other orders described in this manual, provide the basis for signal communication operations throughout the command.

58. Ending

When an item is authenticated individually, the authentication is contained in the ending. Distribution information, such as reference to distribution S, may also be entered here. Complete item numbers are repeated in the lower right corner of each page for ready reference and identification.

59. Physical Form

The SOI usually is published in looseleaf form. Each item begins on a new page and can be treated as a separate entity. The looseleaf SOI permits the removal or insertion of separate items, and makes it possible to issue separate SOI items specifically required by a user who has no need of the remaining items.

60. Numbering

a. An identifying number is assigned to each item of the SOI. This number consists of a base number called the item number and a suffix number called the serial number. The item base number identifies the item, and the serial number identifies the edition of the item. Item No. 1-1, for example, is SOI item No. 1, first edition, and 1-6 is SOI item No. 1, sixth edition.

b. The system described above does not prescribe specific numbers for specific SOI items. It merely shows the method used to devise numbers to identify SOI items. This system of numbering eliminates confusion in the presentation of item numbers and also identifies the edition of the current SOI items.

c. The assignment of a specific item number to an item of the SOI is left to the discretion of the division signal officer. Normally, he assigns to items in the division SOI the same numbers that are assigned to corresponding items in the corps SOI. In the sample SOI (app. V) and SSI (app. VI) a block of item numbers was reserved for each section of items. For example, the block, 20 to 29, was assigned to the radio communication section. When this system is used and there are more SOI items than there are numbers in the reserved block, it is necessary to employ decimals as was done in the sample radio communication section SOI items.

d. When both an SOI and an SSI are published, item numbers of the SSI are the same as those assigned to corresponding items in the SOI. Serial numbers usually differ between the SOI and SSI, because SOI items are changed more frequently than SSI items.

61. Index

a. The index is a standard SOI item. It lists the title and complete item number of each current SOI item, including the index item. The index is distributed to all holders of the SOI.

b. References to the SOI are usually made by referring to the applicable index. For example, paragraph 5 of an operation order may refer to index 1-11, SOI. This reference means that SOI items listed in the 11th edition of item 1 (the index) will be in effect initially for the operation that is governed by the operation order.

c. The index is changed when any of the SOI items is changed. When reserve editions of items have been issued, they may be ordered into effect by publication of a new index that lists the reserve items.

d. Format for the heading and ending of an SOI item is described earlier in this section. When the SOI is published as a single document, the ending of the index contains the authentication.

e. The body of the index is arranged in three vertical columns. The first column is captioned "Title," the second "SOI Item No." and the third "Effective Date." The items are also grouped into sections. Usually, there is a general section, a section for each major group of items, and a section for miscellaneous items that do not fall within any of the major groups.

f. The first item appearing in the index is assigned the lowest item number, and the last item is assigned the highest item number. Thus, items appear in the index in order of their item numbers.

62. Preface

a. The SSI usually contains instructions governing the general use of the SOI. It also states the purpose of the SOI, outlines security instructions related to distribution of the SOI, and contains instructions for the preparation and special distribution of the SOI's of subordinate headquarters. When the SSI is not published, these instructions are contained in a separate SOI item, called the preface.

b. The cipher $\emptyset$ usually is assigned as the base item number of the preface. The serial number is assigned in the same manner as serial numbers for other items.

63. General Information

In the SSI, general instructions relating to the operation of signal facilities and equipment are included in an item entitled "General Information." General information covering the use of the SOI also may be included in this item. When the SSI is not issued, the material is contained in a similar item of the SOI.

64. Distribution

a. The addresses to whom SOI items are distributed are listed in an item entitled "Distribution S." The number of copies of each item allocated to each addressee is indicated in the tabulation.

b. Distribution S is revised when the number of copies allocated to an addressee is changed. It also is changed when an addressee is added to, or deleted from, the list.

c. The body of distribution S is arranged in a number of columns. The first column contains the list of organizations to which items of the SOI will be distributed, and is headed "Organization." The remaining columns are grouped under the heading "Item Numbers." There is one column for each item of the SOI. Each column indicates the number of copies of that item to be distributed to the headquarters listed in the "Organization" col-

um. See SOI Item No. 3-(), in appendix V, for an example of distribution S.

65. References to Orders and Regulations

The SOI may include an item that lists the orders, regulations, and training publications pertaining to the operation of the division signal communication system. The item may refer to Department of Defense publications, Department of the Army publications, publications of the local command, and those of intervening headquarters.

66. Authentication Systems

a. The division signal officer selects from AFSAG 1247A, in accordance with instructions contained therein, the systems to be used within the division. The division signal officer then prepares separate tables for division headquarters communications nets, division artillery nets, and the nets of individual battle groups. He may delegate responsibility for preparation of tables to division artillery and to battle groups.

b. This SOI item contains the authentication tables, and describes the method used in selecting test elements for use with the tables. When assigning tables for use in the division, the signal officer must consider restrictions on the number of times the elements of a table may be used. Attention also must be given to the frequency with which the tables should be changed. An emergency system should be established, as prescribed in AFSAG 1247A.

c. To lessen the possibility of compromise, extracts of this item should be rigidly controlled by the signal officer. Strict time limits should be imposed on their use.

d. The SSI item gives instructions pertaining to authentication. It also gives instructions pertaining to use of the SOI item. When the SSI is not issued, the SOI contains these instructions.

67. Cryptographic System

a. An item is included in the SOI to govern use of the cryptographic system authorized the command. The item gives the operational settings and other data required for operation during stated periods of time.

b. The body of this item is arranged in chart form to show operational settings of the cryptographic equipment and the length of time each setting will remain in effect.

c. For security reasons, extracts of this item should be limited to the shortest period of time possible, and to the smallest group of operational settings necessary for operation. It should be limited to one day of operation, or less if the regulations governing the particular system require it.

d. Appendix V shows the general format for a cryptographic system SOI item. The body of the item has been omitted for security reasons. Information pertaining to specific cryptographic systems may be found in the applicable operating instructions published for use with each of the systems.

68. Panel Code and Recognition Signals

a. Panel codes and recognition signals are designed primarily to provide communication between ground troops and aircraft in flight. Messages are transmitted from ground to air by using specific arrangements of panels. The pilot acknowledges receipt of each transmission by performing a specific prearranged maneuver with his aircraft. He may also give other information to ground troops by using other specific prearranged aircraft maneuvers.

b. The signals are included in the panel code and recognition signals item of the SOI. Panel signals are described in FM 21-60 and ACP 129.

c. Panel signals must be recognizable to friendly aircraft of the Army, Navy, Air Force, and allies. Therefore, assignment of meanings to the signals usually is made at theater level. When deemed advisable, the theater signal officer may allocate blocks of signals to subordinate headquarters for assignment of meanings and further allocation.

d. The SOI item for panel code and recognition signals is distributed to all headquarters that require it for coordination of visual signal communication between air and ground units. This may include headquarters outside of the issuing command, when distribution is required for proper coordination.

e. The body of the item is prepared in tabular form. Part I is used for the panel code, and part II for panel recognition signals.

f. Part I is divided into sections, as follows:

- (1) Numerals are listed in columns, with a corresponding panel display graphically shown opposite each numeral.
- (2) Indicator panel displays are shown graphically, with the meaning of each indicated opposite the display.
- (3) Special signs are indicated by showing the panel display graphically, with the meaning indicated alongside.
- (4) Vocabulary is divided into appropriate groups. Each group is identified by a heading, such as Essential Battle Messages, Information Friendly Action, Pro-signs, Communications, Artillery Observation, General, Special Requirements, Information Enemy Action, and Instruction to Aircraft. This section lists numerals that convey specific messages. The first column lists the numerals, and the second column indicates the meanings.

g. Part II, Panel Recognition Signals, is divided into an encoding section and a decoding section. Each section has two columns, the headquarters column, and the Code No. column.

- (1) The encoding section lists the headquarters in the first or left hand column and the code number assigned to the headquarters in the second or right hand column.
- (2) The decoding section lists the code numbers in the first or left hand column and the headquarters to which the code num-

ber is assigned in the second or right hand column.

h. A sample SOI item for panel code and recognition signals is shown in appendix V.

69. Air-Ground Recognition Signals

a. The two types of recognition signal prescribed in the air-ground recognition signals item of an SOI are used solely for identifying ground troops as friendly to friendly aircraft. They are not to be confused with other visual signals, such as the panel code and recognition signals, the vehicular identification markings, etc.

b. The body of this item is prepared in columns. The columns list signals in the following manner:

- (1) *Date.* Effective dates are listed.
- (2) *Time.* Effective time periods are listed for each date.
- (3) *Pyrotechnic star.* The applicable pyrotechnic signal is listed for each time period.
- (4) *Panels.* A panel display is shown graphically for each time period.

c. A sample SOI item for air-ground recognition signals is shown in appendix V.

70. Codes

a. Certain types of codes may be required for use within the division during an operation. Samples of items for the codes are not shown in this manual, but pertinent information may be found in ACP 165, ACP 256, and ACP 257.

b. The division signal officer obtains codes from army or corps headquarters for use in the division. To prevent use of one code in too many communication networks and to limit the length of time during which one code may remain in effect, he must take precautions similar to those for authentication systems (par. 66).

71. Friendly Atomic Strike Warning System

a. Warning of an impending friendly atomic strike is necessary for the protection of friendly troops and equipment. However, warning of the strike must be denied to the enemy. Secure warning systems are used for this purpose.

b. Atomic strike warning systems are designated by higher headquarters through command channels. The division signal officer publishes the system and pertinent instructions in this SOI item (app. V).

c. Locally devised friendly atomic strike warning systems may be used only after they are approved by the U. S. Army Security Agency.

72. Radio Call Signs and Frequencies

a. The division signal officer is responsible for the assignment of radio call signs and frequencies throughout the command. He makes the assignments in the SOI item for radio call signs and frequencies. This item may be broken down into separate items, each item assigning call signs and frequencies for the nets of a major subordinate command or group of commands. The sample SOI,

shown in appendix V, indicates this type of assignment.

b. The theater signal officer, or the signal officer on the staff of the senior field army commander, determines the classes and numbers of radio frequency lists needed in the theater, and assigns specific frequencies to each list. He assigns appropriate lists to each field army, based upon each army's requirements. The army signal officer, in turn, allocates lists to all major subordinate commands. The division signal officer, in coordination with the signal officers of adjacent commands, assigns frequencies from his lists to each radio net in the division. When appropriate, the division signal officer may assign blocks of frequencies to major subordinate commanders.

c. The theater signal officer, or the signal officer on the staff of the senior field army commander, obtains tactical call signs from JANAP 110 (A) for allocation to each field army. The army signal officer in turn allocates blocks of call signs to all major subordinate commands. Sufficient call signs are included to provide a separate call sign for each company-size unit that is assigned to one organization and placed under the operational control of another. The division signal officer assigns call signs from his block to radio stations throughout the division. When appropriate, the division signal officer may assign blocks of call signs to major subordinate commanders.

d. The body of the radio call sign and frequency item is arranged in three columns headed "Unit," "Call Signs," and "Frequencies." This item is also

arranged into "Nets," with units assigned according to the radio nets in which they operate. The unit that is to be net control station usually is listed first within each net grouping. The radio nets of higher headquarters are listed in this item when division stations operate in those nets.

73. Radio Callword Suffixes

a. The division signal officer prescribes a system for adding suffixes to radio callwords. Suffixes are used to indicate staff positions or subordinate radio stations that otherwise would require separate callwords. This system of suffixes permits a wider use of assigned callwords.

b. The division signal officer assigns suffixes in the SOI. He may use either words or numerals. Normally, the division signal officer will require subordinate unit communication officers to submit a recommended list of additional suffixes to be included in the SOI item. Suffixes to be used by the division artillery are determined by the division artillery communication officer and are forwarded to the division signal officer for inclusion in the SOI.

74. Radio Relay Frequencies

a. The SOI of higher headquarters will normally make block allocations of radio relay frequencies for subordinate units. Block allocations are broken down, and specific assignments are made according to the arrangement of equipment in the radio relay systems to be used. The assignment of frequencies, as well as instructions for their use, are included in the SOI item.

b. The body of the item is arranged in three columns, headed "System," "Polarization," and "Frequencies." The system column indicates the stations in each system. The polarization column designates horizontal or vertical polarization for each system, and the frequencies column assigns primary and alternate frequencies for the transmitter at each station. There is a sample of the SOI item for radio relay frequencies in appendix V.

75. Facsimile

It may be necessary to establish precedence for facsimile traffic on radio and wire circuits. In this instance, instructions are given in an SOI item prepared for that purpose.

76. Radio/Wire Integration System

a. The radio/wire integration system is designed to permit a calling party to talk with a called party when contact cannot be made directly by voice radio or by telephone. For example, the commanding general can use his FM radio set to enter the division area communication system from his mobile command post through a radio/wire integration station. The radio/wire integration station connects him, over the area communication telephone system, to the party he is calling.

b. Instructions for use of the system usually are given in an SSI item. When the SSI is not published, these instructions are included in the SOI. Radio frequencies, callwords, callword suffixes, and telephone directory code names and numbers are assigned to radio/wire integration stations in SOI

items normally pertaining to the radio communication systems and the wire communication systems. Instructions for use of the above SOI items will apply when these items are used in the radio/wire integration system. For example, when the calling party makes his call from an FM radio station, he uses radio-telephone procedure to call the radio/wire integration station. He then asks for the called party by radio callword and suffix. Radio-telephone procedure and security must be observed throughout the ensuing communication.

c. The body of the SOI item for the radio/wire integration system is arranged in normal paragraphing format. A sample of the item is shown in appendix VI.

77. Wire Tagging Code

a. The division signal officer prescribes the system to be used in identifying wire lines. This information is included in the SOI item for wire tagging codes.

b. Various arrangements of notches on wire tags are used in the coding system. The notching code on a wire tag indicates the unit responsible for laying and maintaining the wire line. The telephone directory code designation of the unit laying the wire line is placed on one side of the tag, and the telephone directory code designation of the unit to which the line is laid is placed on the other side. Unit designations, in the clear, are never placed on wire tags. Selection of notching patterns should be coordinated with the signal officer at the next higher level of command.

c. The body of the wire tagging code SOI item is prepared in two columns. Using units are listed in one, and the coding designation for each is indicated in the other columns. The notching code is presented graphically in this item.

d. Appendix V shows a sample SOI item for a wire tagging code.

78. Telephone Directory

a. The sytem used to identify units by code name and exchange number over the telephone communication system is prepared by the division signal officer and is published in the telephone directory SOI item. An example of the item is given in appendix V.

b. The body of the item is divided into two parts. The first part designates directory names, and the second part designates directory numbers. Each of the parts is prepared in two columns, one listing the unit and the other listing its designated name or number.

c. Telephone directory names are assigned to all major organizations equipped with switchboards. Names of two or more syllables should be used, because they are less likely to be misunderstood when spoken. A suggested list of code names may be found in ACP 256.

- (1) Directory names of all major units in a division begin with the same initial letter. An example of this type of assignment is as follows:

<i>Unit</i>	<i>Name</i>
20TH INF DIV_____	KING KONG
20TH INF DIV ARTY_____	KAPOK

- (2) Separate battalions are treated as battle groups in the assignment of separate directory names.

<i>Unit</i>	<i>Name</i>
1ST HOW BN, 45TH ARTY_____	KENNEL
20TH SIG BN_____	KANGAROO

- (3) Separate companies and batteries may be assigned directory names, or they may be assigned directory numbers suffixed to the directory names of their parent headquarters.

<i>Unit</i>	<i>Name</i>
20TH AVN CO_____	KILROY
20TH QM CO_____	KING KONG 121

- (4) Companies and batteries organic to larger organizations normally are not assigned directory names.

- (a) They normally use the directory names of their parent organizations, plus the suffix ALPHA, BRAVO, CHARLIE, DELTA, etc.

<i>Unit</i>	<i>Name</i>
CO A, 1ST BAT GP, 61ST INF.	KRONA ALPHA

CO D, 20TH ENGR BN KEYSTONE DELTA

- (b) When they are expected to operate under control other than that of their parent organizations, companies or batteries may be assigned directory names.

<i>Unit</i>	<i>Name</i>
CO B, 20TH ENGR BN_____	KILOWATT
BTRY B, 1ST HOW BN, 45TH ARTY.	KRAGSHOT

d. Telephone directory numbers are assigned to each organization, office, and installation not equipped with a switchboard. Directory numbers remain fixed, once they are assigned. To prevent confusion, the same number is assigned to similar offices throughout the command. A partial list of telephone directory numbers follows:

<i>Office</i>	<i>Directory No.</i>
G1 (S1) -----	1
G3 (S3) -----	3
CofS (Exec) -----	5
CG (CO) -----	6
Msg Cen (Incoming) -----	11
Air Off -----	14
Ln Off -----	24
Radio Sta -----	28

e. In this item, the signal officer may prescribe procedures for users of the telephone system throughout the command. For example—

- (1) The caller will give the telephone directory name, suffix, and extension number of the called party, as follows:

<i>Installation called</i>	<i>Designation by caller</i>
CG, 20th Inf Div-----	KAPOK 6
S3, 20th Sig Bn-----	KANGAROO 3
Exec, Co A, 1st Bat Gp, 61st Inf.	KRONA ALPHA 5
Ln Off, 1st How Bn, 45th Arty.	KENNEL 24
Radar Base, 1st How Bn, 45th Arty.	KENNEL RADAR

- (2) Telephone directory code names will not be used in the text of a message or other communication.
- (3) Telephone directory code names will not be used interchangeably with radio call-

words, except as directed in sample SSI item No. 20.8-1, appendix VI.

79. Teletypewriter Call Signs

a. This SOI item assigns call signs to the teletypewriter stations of the division. It also lists other teletypewriter stations with which communication may be established. A sample of this item appears in appendix V.

b. The body of the item is arranged in two columns. The first, or left hand column, is entitled "Headquarters." The right hand column lists the call signs for the teletypewriter stations of the headquarters listed in the first column.

c. When the number of stations listed is large enough to cause difficulty in finding a given call sign, encoding and decoding sections may be required. When encoding and decoding sections are used, each section is prepared in two columns, headed "Headquarters" and "Call Sign." In the encoding section, the arrangement is the same as described in *b* above. In the decoding section, the call sign column appears to the left and is arranged in alphabetical and numerical order.

80. Pyrotechnic and Smoke Signals

a. The use of pyrotechnic and smoke signals is restricted to certain prearranged signals. The signals are prescribed in the pyrotechnic and smoke signals item of the SOI, a sample of which appears in appendix V. Close coordination must be effected with higher headquarters before assignment of meanings to the signals.

b. Individual assignments and means may remain in effect for 1 to 3 days, depending on how often they are used. However, one edition of the item may cover assignments for several successive days. Extracts normally list signals for no longer than 1 day.

c. The body of the pyrotechnic and smoke signals SOI item is divided into three sections, which are described in the following subparagraphs.

d. Pyrotechnic signals (ground) are arranged in three columns. The first or left hand column contains the signals, the middle column contains the meanings of the signals, and the third or right hand column contains the supply manual nomenclature type numbers of the pyrotechnics.

e. Pyrotechnic signals (air) are arranged in a manner similar to that used for the ground signals described in *d* above.

f. Smoke signals are listed in two columns. The left hand column gives the signal, and the right hand column gives the meaning.

81. Vehicular Identification Markings

a. Special signals for identification of vehicles to friendly aircraft are placed in the vehicular identification markings SOI item. The primary purpose of the signals is to prevent air attack by friendly aircraft upon friendly vehicles.

b. The item contains instructions for the display of markings (usually colored panels). This item is intended only for use in identifying troops units as friendly to friendly aircraft, and does not affect in-

structions in the air-ground recognition signals SOI item.

c. The body of the item is arranged in two columns. The first or left hand column gives inclusive times and dates for the displays. The right hand column states the colors to be displayed during the periods listed. Appendix V shows a sample of the vehicular identification markings SOI item.

82. Sun and Moon Data

a. Various combat operations are affected by the times at which twilight, sunrise, sunset, moonrise, and moonset occur, and by the amount of light available from the moon in its several phases. The sun and moon data SOI item provides the command with information pertaining to these matters.

b. The body of the sun and moon data SOI item is prepared in tabular form, with the dates listed in the left hand column. For each date, times are given for twilight (both morning and evening), sunrise, sunset, moonrise, and moonset. A sample of the item is shown in appendix V.

83. Messenger Routes and Schedules

a. A message to be transmitted by messenger communication and delivered to an addressee within a certain time limit must be prepared by the originator and filed at a communications center in time to be picked up by the messenger whose route includes the headquarters at which the addressee is located. The messenger routes and schedules SOI item provides the command with the data required

for estimating appropriate message preparation and filing times.

b. The body of the item identifies the routes and types of messengers. Under each route are listed the headquarters at which the messenger will stop. After each headquarters is indicated the time for each stop. A sample of the item appears in appendix V.

84. Visual and Sonic Signals

a. Visual signals may be required for purposes other than identification of units and protection of vehicles. The visual and sonic signals SOI item directs the use of such signals.

b. Sonic signals, such as those used to give warning of enemy air, ground, or CBR attack, appear in this SOI item.

c. The body of the item is divided into two sections, one for visual signals and the other for sonic signals. The visual section contains graphic representations of the visual signals and indicates the meaning of each. The sonic section gives descriptions of the signals and states the meaning to be conveyed by each signal.

d. An example of a visual and sonic signals SSI item is shown in appendix VI. When warranted by the number of signals, visual and sonic sections may be made the subjects of separate SOI or SSI items.

Section III. STANDING SIGNAL INSTRUCTIONS

85. Purpose

An SSI contains technical instructions, not subject to frequent change, that are required in the employment of signal communications throughout the issuing command. It includes instructions that explain the various procedures to be followed when using the individual items of the SOI. When an SSI is not published, these instructions are incorporated in the SOI.

86. Scope

Subjects covered by an SSI correspond to those of the SOI. Refer to section II of this chapter for a detailed description of the scope.

87. Distribution

SSI items receive the same distribution as SOI items. The signal officer may make additional distribution, when necessary. Classification is held to a minimum to permit wider distribution and ease of handling. It usually is possible to make each portion of the SSI unclassified.

88. Format

The SSI is similar to the SOI in format. Item base numbers and subjects are the same in the SSI as for corresponding items in the SOI. Section II of this chapter contains detailed instructions relating to the format. A sample SSI is shown in appendix VI.

CHAPTER 8

SIGNAL RECORDS AND REPORTS

Section 1. GENERAL

89. Introduction

a. Experience is a great teacher. The lessons learned from experience on the field of battle play important roles in the development of doctrine, tactics, and techniques for use in the conduct of subsequent military operations.

b. Frequently, experience loses much of its value, because the mind tends to forget the details of events that occur during the heat of battle.

c. It is the practice to keep records and make reports before, during, and after military operations. Through these reports, exact information about actions and the reasons behind them is preserved and made available for collation and evaluation at echelons of responsible command up to the Department of Defense.

90. Staff Responsibility

Responsibilities for records and reports at the staff level are outlined in FM 101-5. The division signal officer is responsible to the commander for signal records and reports at division level. In addition, he has command and staff responsibility for signal records and reports prepared by the division signal battalion.

DAILY STAFF JOURNAL OR DUTY OFFICER'S LOG (AR 600-10 & FM 101-1)							PAGE NUMBER 2	NUM. SER. OF PAGES 2
ORGANIZATION OR INSTALLATION			LOCATION		PERIOD COVERED			
Signal Section Hq 20th Inf Div			Paris, France		FROM		TO	
					MOON	DATE	MOON	DATE
					0001	14 Jun 57	2400	14 Jun 57
ITEM NO.	TIME		INCIDENTS, MESSAGES, ORDERS, ETC.	ACTION TAKEN				
	IN	OUT						
	*	*	* * *	* *				
16	0830		Adv Sig Cen operational 140800 Jun.	K-S-F-Sig Bn				
17		0845	20th Sig Bn - Trains Area Sig Cen prepare to receive rad relay team, Thirtieth Army, approx 141200 Jun.	S-F-F				
18	0915		Corps Sig Sec - SOI Item 15-7 compromised. Use Reserve Item 15-8 effective immediately.	S-F-F				
19			Div Sig Off to Div Arty 140930; expected return 141200.					
20	1030		Fwd Sig Cen No. 1 - Rad relay site atk by guerrillas 140930.	S-F-Sig Bn				
21		1115	Brig Area Sig Cen - Establish rad relay to Fwd Sig Cen No. 2 by 141500.	F-Sig Bn				
22			Sig Annex, OpO 23 issued 141200.	T-F				
23	1320		20th Inf Div Arty - Enemy jamming Div Arty Cmd Net (FM-VOICE) 141230-141245.	G2-F				
24			Div Sig Off recon new CP 141400; expected return 141700.					
	*	*	* * *	*				

TYPED NAME AND GRADE OF OFFICER OR OFFICIAL ON DUTY JOHN J. SMITH, Lt Col, Signal Officer	SIGNATURE <i>John J. Smith</i>
--	-----------------------------------

DA FORM 1594
1 DEC 56

U. S. GOVERNMENT PRINTING OFFICE: 1955 O-341756

FM11-16-23

Figure 3. Typical signal section journal entries.

91. Signal Section Journal

a. Many of the staff actions taken in connection with signal support of a combat operation are made orally rather than in writing. The signal section

journal is a permanent official record of oral orders, messages, and other unwritten signal staff transactions, as well as those prepared in written form.

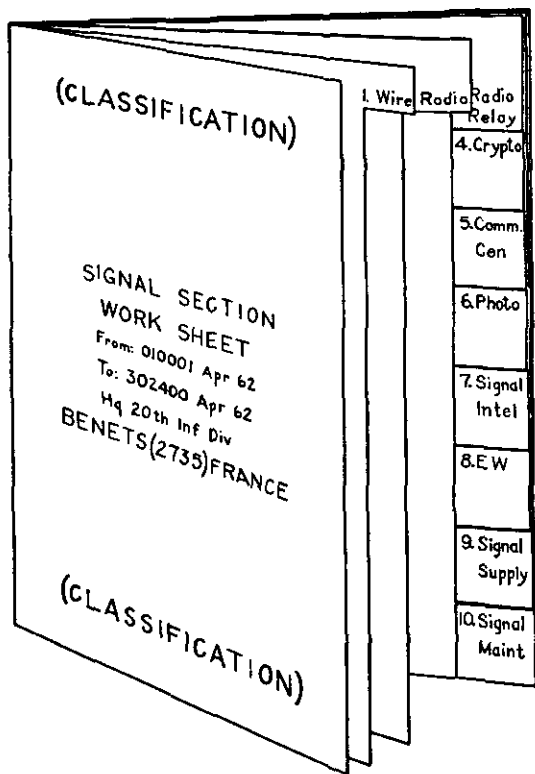
b. All journal entries are made in chronological order. Oral transactions are entered in their complete form, except when contingencies prevent this procedure. It is important that reasons be stated for orders given and actions taken, so that a complete picture of signal support operations may be drawn from the record in subsequent review. Figure 3 illustrates entries typical of a signal section journal.

92. Signal Section Worksheet

The signal section worksheet is a ready reference of the daily conduct of signal section business. It is an informal record, but it contains an indexed collation of information which may be used by the signal officer in making estimates, plans, orders, and reports. Therefore, it must be kept current at all times. Entries indicate the sources from which the items were obtained. Figure 4 shows one way in which the physical form of a signal section worksheet may be arranged, and indicates subjects that may be required. The number and scope of signal subjects will vary according to local requirements.

93. Signal Situation Map

a. The tactical situation is a major factor in determining requirements for signal support. To keep himself abreast of the changing tactical situation,



FM11-16-21

Figure 4. Sample signal section worksheet.

the division signal officer makes use of the signal situation map. G3 keeps an official situation map to which the signal officer may refer, but the signal officer maintains the signal situation map in his own section. He keeps this map current by referring periodically to the G3 situation map, and by

using his own sources of information. The signal officer frequently receives new information pertaining to command post locations and other geographical data from signal messengers and wiremen. He coordinates this information with G3, and enters it on the signal situation map, if appropriate. Figure 5 shows an overlay of a signal situation map, illustrating the type of information the signal officer may keep on his situation map.

b. The division signal officer's situation map may be considered an informal temporary signal record. It contains more detailed information about signal support matters than do other situation maps at the headquarters. It serves as a ready reference for the signal officer when he makes his signal estimates, plans, and orders. The signal officer may use the situation map to prepare signal orders in the form of overlays (par. 39). Also, he may use overlays, or make reference to the situation map, when preparing records and reports.

94. Command Report

a. General requirements for command reports are contained in FM 101-5 and SR 525-45-1. The division signal officer is responsible for preparation of signal support aspects of his commander's report. In addition, he reviews signal support subjects contained in command reports forwarded through his headquarters from subordinate commanders. Since the activities of the division signal battalion are the division signal officer's responsibility, he takes particular interest in the command report prepared and submitted by this unit.

b. The command report periodically provides opportunity for the division signal officer to present the signal support picture of his command to higher commands for evaluation. In this report, he should make recommendations for changes in policy that will improve tactics and techniques of signal support. Command reports from subordinate units (when they refer to signal matters) are given to the division signal officer for review as the commanding general's staff signal officer. If applicable, he prepares comments and recommendations to be included in the division commander's indorsement. In addition, the command report of the division signal battalion is his responsibility as a commander.

Section II. SIGNAL COMMUNICATION RECORDS

95. General

The number and scope of signal communication records and reports under the staff responsibility of the division signal officer depend upon requirements established by higher headquarters, operating methods adopted by the commanding general and his staff, and requirements imposed by the current situation. This section describes signal communication records that the division signal officer may use to assist him in the discharge of his responsibilities.

96. Radio Net Diagram

a. This record shows the arrangement of radio stations in nets. It also designates the headquarters required to have stations in each specific radio net.

When desired, it may include additional information, such as types of radio sets to be used at each station.

b. The diagram may be used as an order as well as a record. When used as an order, the diagram may be published as an appendix to the signal annex (app. IV).

97. Telephone Traffic Diagram

a. This diagram illustrates the common user telephone trunks established between major divisions signal center switchboards. Telephone directory names and numbers identify the switchboards shown in the diagram. Headquarters sometimes are identified by military symbols, but security factors should be considered before following this procedure. The signal officer should coordinate with G2 in this matter and make appropriate recommendations.

b. The traffic diagram may be used as an order. For example, appendix IV shows a telephone traffic diagram appendix to a signal annex. Telephone switchboard operators use the diagram to assist them in routing trunk calls.

98. Telephone Route Bulletin

a. The telephone route bulletin supplements the telephone traffic diagram by giving routing information for all units served by the division telephone system. Units are listed alphabetically and numerically by telephone directory name and number. For each unit, the area signal center

switchboard through which the unit may be reached is indicated. Following is an example of the typical format in which the route bulletin information is assembled:

<i>Unit designation</i>	<i>Area exchange</i>
BASSOON_____	DEXTER
CAPITOL_____	DEXTER
DANDY_____	DEXTER ADVANCE
DANGLE_____	DEXTER TRAINS
DAZZLE_____	DEXTER
DEADEYE_____	DEXTER CHARLIE

b. The division signal officer prepares this bulletin. It is used primarily by division signal center switchboard operators in determining proper routing of trunk calls.

99. Division Area Systems Diagram

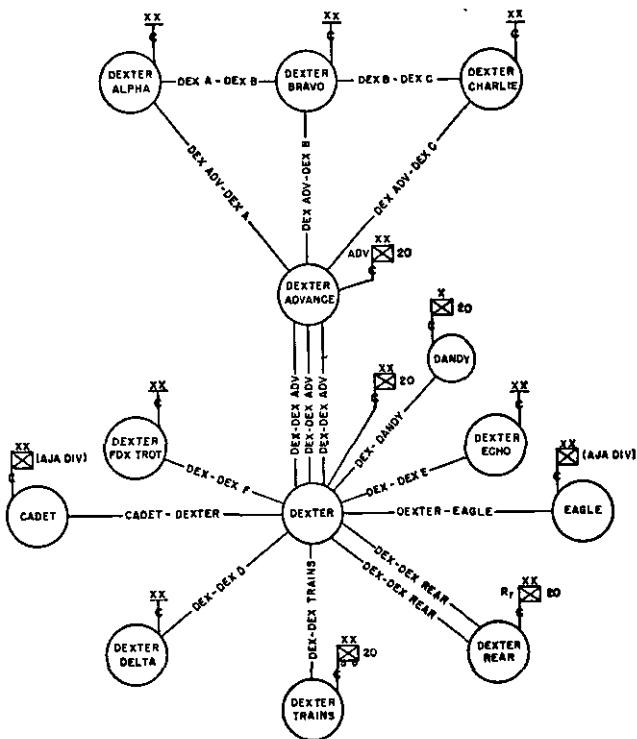
a. The division signal officer may prepare a diagram to show the single and multi-channel voice frequency signal communication systems established in the division. The diagram shows the terminal ends of the systems and identifies the systems.

b. Figure 6 shows the manner in which this information is placed on a systems diagram. Although the diagram is primarily a record, it may be used as an order or report.

100. Circuit Diagram

a. Technical arrangement and connections in a signal communication system, or portions thereof, are shown schematically in a circuit diagram. Conventional signs and military symbols in FM 21-30

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73/ Wellington
WELLINGTON
LT COL
SIGNAL OFFICER
FM 11-16-20

Figure 6. Typical division area systems diagram.

are used to identify the installations indicated in the diagram.

b. The circuit diagram, prepared by the division signal officer, may be used as an order, record, or report. The division signal officer will frequently require subordinate units to provide a circuit diagram (report) of their signal system.

101. Line Route Map

a. This record may be a map or an overlay. It shows the number and types of wire lines located on the routes over which they are physically installed. It may be prepared by the signal officer or the individual responsible for installing the lines. Although it is used primarily as a record, it may also be used as an order or report.

b. Figure 2 is an example of a line route map used both as an order and as a report. It shows only a portion of the wire line network.

Section III. SIGNAL SUPPLY AND MAINTENANCE REPORTS

102. General

The division signal officer handles various signal supply and maintenance reports. This section discusses signal supply and maintenance reports, and makes reference to publications in which more details may be found.

103. Periodic Logistics Report

FM 101-5 gives an example and explanation of this report. The division signal officer provides G4

with information pertaining to signal supply and maintenance for inclusion in the division periodic logistics report.

104. Deadlined Equipment Report

a. All TOE units submit deadlined equipment reports. AR 750-45 provides detailed information on the report and prescribes equipments for which reports must be given. The report focuses command attention on the combat readiness status of major items of equipment of a unit, and on the necessity for adherence to effective maintenance procedures. The reports are consolidated at division level for submission to army commanders.

b. The division signal officer uses the reports from subordinate units to assist him in discharging his staff supervisory responsibilities. He may be required to consolidate data from subordinate unit reports for inclusion in the consolidated division report.

105. Command Maintenance Inspection Report

AR 750-8 establishes procedures under which technical inspection teams make command maintenance inspections for major oversea commanders. Reports resulting from inspections of signal units and the signal equipment of non-signal units in the division can be used by the division signal officer as one indication of the effectiveness of the division's signal maintenance program.

106. Unit and Organization Equipment Status Report

This is a quarterly report that gives data on the

allowances of specific major equipments and the quantities on hand. One consolidated report may be prepared for the entire division, or separate reports may be prepared by battle groups and separate battalions or companies. In either instance, the signal officer's staff is required to perform a technical edit of the signal portion of the report. The signal officer may use the report to add to his information on the status of the specific signal equipments covered by the report. Details on reportable items and requirements of the report are given in AR 711-41.

APPENDIX I

REFERENCES

1. General

This appendix is a selected list of publications pertaining to the text.

2. Publications

ACP 129	Classified
ACP 165	Classified
ACP 256	Classified
ACP 257	Classified
AR 220-346	Journals and Journal Files.
AR 320-50	Authorized Abbreviations.
AR 380-5	Safeguarding Defense Information.
AR 711-41	Army Supply Status Reporting System, Unit and Organization Equipment Status Report.
AR 750-8	Command Maintenance Inspections.
AR 750-45	Deadlined Equipment Report.
AFSAG 1247A	Classified.
DA Pam 108-1	Index of Army Motion Pictures, Film Strips, Slides, and Phono-Recordings.

- DA Pam 310-1 Index of Administrative Publications.
- DA Pam 310-3 Index of Training Publications.
- DA Pam 310-4 Index of Technical Manuals, Technical Bulletins, Supply Bulletins, Lubrication Orders, and Modification Work Orders.
- DA Pam 310-7 Index of Tables of Organization and Equipment, Tables of Organization, Type Tables of Distribution, and Tables of Allowances.
- FM 11-30 Signal Corps Technical Intelligence.
- FM 21-5 Military Training.
- FM 21-6 Techniques of Military Instruction.
- FM 21-30 Military Symbols.
- FM 21-60 Visual Signals.
- FM 24-5 Signal Communications.
- FM 33-5 Psychological Warfare Operations
- FM 100-5 Field Service Regulations; Operations.
- FM 100-10 Field Service Regulations; Administration.
- FM 100-11 Signal Communications Doctrine.
- FM 100-15 Field Service Regulation; Larger Units.

FM 101-5 Staff Officers' Field Manual:
 Staff Organization and Procedure,
FM 101-10 Staff Officers' Field Manual:
 Organization, Technical, and
 Logistical Data.
JANAP 110(A) Classified.
SR 320-5-1 Dictionary of United States
 Army Terms
SR 525-45-1 Command Report.

APPENDIX II

SIGNAL PLAN

Division Signal Officer's Plan.

(CLASSIFICATION)

Copy No. 7
Signal Section
20th Infantry Div
LAMBALLE, (637452),
FRANCE
271100 Apr 65
RX317

Signal Plan to support Operation Plan 13 (DAGGER)

References: Map, FRANCE, 1:50,000, LAMBALLE

1. SITUATION.

a. Enemy Forces. Current periodic intelligence report.

b. Friendly Forces.

(1) Task organization. Annex A, Task Org List.

(2) Command posts and installations. Annex B, Overlay.

c. Attachments and Detachments.

(1) Attachments.

(a) Two ea team GM (TOE 11-500).

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(b) One radio team of 761st Signal Bn (Army), with equipment, to operate RRT station terminating special point-to-point circuit from Hq Thirtieth Army.

(2) Detachments. One battle group area support platoon, with equipment, to 1/61 Inf on special mission.

2. MISSION. Signal battalion provides signal support H-hour, D-day, for division counterattack in direction hill 675-603 to seize hill 603, reduce enemy penetration, and restore battle positions.

3. EXECUTION.

a. Concept. Communication from division headquarters to 4/64 Inf and 5/65 Inf initially by radio, radio/wire integration, and messenger, supplemented by prearranged visual signals. Multichannel radio relay terminals installed at battle group CP's immediately after seizure of objectives.

b. Headquarters and Headquarters Company, 20th Signal Battalion.

(1) One field cable installation team alerted to assist Forward Communication Company in construction of wire circuits to 4/64 Inf and 5/65 Inf on order.

(2) Prints resulting from air photography missions, indicated in Annex B Overlay,

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to be delivered to G2 not later than H-hour minus 4.

(3) Other operations SOP.

c. Command Operations Company, 20th Signal Battalion.

(1) One motor messenger alerted for special dispatch to 4/64 Inf.

(2) One motor messenger alerted for special dispatch to 5/65 Inf.

(3) Other operations SOP.

d. Forward Communication Company, 20th Signal Battalion.

(1) One radio relay team, with multichannel radio relay equipment, prepared to move on order to 4/64 Inf CP in objective area.

(2) One radio relay team, with multichannel radio relay equipment, prepared to move on order to 5/65 Inf CP in objective area.

(3) Other operations SOP.

e. Coordinating Instructions.

(1) This plan effective for planning on receipt, for execution on order.

(2) All signal units, except those designated, prepare to assemble personnel for combat employment, in accordance with SOP, on 2-hour notice.

4. ADMINISTRATION AND LOGISTICS. Division Admin09.

(CLASSIFICATION)

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5. COMMAND AND SIGNAL. Recommendation for Paragraph 5, Operation Plan 13 (DAGGER).

a. Signal.

- (1) Annex D, Signal.
- (2) Index 1-3, SOI.

b. Command.

- (1) 4/64 Inf report CP in objective area.
- (2) 5/65 Inf report CP in objective area.
- (3) All other report CP's.

Acknowledge.

/s/ Wellington
WELLINGTON
Lt Col
Signal Officer

ANNEXES: A—Task Org List
B—Overlay

DISTRIBUTION: 20th Sig Bn

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APPENDIX III

SIGNAL UNIT OPERATION ORDER

Division Signal Battalion Operation Order.

(CLASSIFICATION)

(No changes from oral orders)

Copy No. 5

20th Signal Battalion

BEAUREGARD, (246753), FRANCE

110900 Oct 1965

RX 327

Operation Order 11.

References: Map, FRANCE, 1:250,000, LE CHATELET—MONTHOIS.

Task Organization: Annex A, Task Organization.

1. SITUATION.

a. Enemy Forces.

- (1) The enemy is capable of intercepting and jamming radio transmissions, and is capable of landing airborne troops in division area to disrupt communications.
- (2) Annex B, Intelligence.

b. Friendly Forces.

- (1) 20th Inf Div attacks to seize high ground overlooking southwestern approach to

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SOUAIN (357211) in preparation for assault on town.

- (2) 1/61 Inf attacks and seizes hill 675 (320245).
- (3) 2/62 Inf attacks and seizes hill 603 (302248).
- (4) 3/63 Inf attacks and seizes hill 721 (311210).
- (5) 4/64 Inf is prepared to assist 3/63 Inf in seizure of hill 721.
- (6) 5/65 Inf is prepared to relieve 2/62 Inf in objective area on order.

c. Attachments and Detachments. Annex A, Task Organization. Attachments and detachments effective immediately.

2. MISSION. 20th Signal Battalion will provide signal support for 20th Infantry Division in attack at 130500 Oct. Annex C, Operation Overlay.

3. EXECUTION.

a. Concept of Operation. The battalion will provide signal communication between echelons of division headquarters, from division headquarters to each battle group and other subordinate units, provide signal supply and maintenance for organic and attached units, and provide photographic facilities for the operation.

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b. Headquarters and Headquarters Company.

- (1) Install CX-1065/G cable from division advance signal center to area signal center at 2/62 Inf.
- (2) Alert photographer for air photography mission on order.
- (3) Other operations SOP.

c. Command Operations Company.

- (1) Install multichannel radio relay communication between division main signal center and signal subcenter serving division artillery.
- (2) Other operations SOP.

d. Forward Communication Company.

- (1) Terminate CX-1065/G cable, installed by battalion field cable installation section, at area signal center serving 2/62 Inf.
- (2) Establish radio relay circuits between area signal center and 2/62 Inf CP in objective area.
- (3) Other operations SOP.

e. Coordinating Instructions.

- (1) Installation and operation of communication centers will be in accordance with SOP, except as directed in preceding subparagraphs.
- (2) Precautions will be taken by all personnel to prevent the enemy from inserting,

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false messages into the signal communication system. Authentication will be required for all electrically transmitted messages. Proper identification will be demanded of all unrecognized messengers. Military or civilian individuals found within prescribed boundaries of signal installations or activities will be challenged. If they are identified, and it is determined that they have no legitimate business there, they will be ordered outside the prescribed boundaries. If they cannot provide proper identification, they will be handled in accordance with SOP. Sabotage or attempted sabotage will be reported immediately, in accordance with SOP.

4. ADMINISTRATION AND LOGISTICS.

- a. Conserve wire and cable.
- b. Army signal dump, no change.
- c. AdminO 14.

5. COMMAND AND SIGNAL.

- a. Index 1-25, SOI, 20th Inf Div.
- b. Battalion commander at division signal office.

Acknowledge.

WELLINGTON
Lt Col

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(CLASSIFICATION)

Annexes: A—Task Organization (omitted)
B—Intelligence (omitted)
C—Operation Overlay (omitted)

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/s/ Visconti
VISCONTI
S3

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APPENDIX IV

SIGNAL ANNEX

Signal annex to division operation order.

(CLASSIFICATION)

Copy No. 3
20th Infantry Div
OSAKA (489375) JAPAN
271800 Oct 1965
CX 40

ANNEX E (Signal) to OpO 7.

References: Map, JAPAN, 1:250,000, KYUSHU
KYUSHU, 1:50,000, TABI-OB
KYUSHU, 1:25,000, OCHA SHI

Task Organization: Annex A, Task Organization.

1. SITUATION.

a. Enemy Forces.

(1) Annex B, Intelligence.

(2) The enemy has the capability to intercept and jam friendly radio transmissions, enter friendly radio nets, and tap friendly wire circuits.

b. Friendly Forces. Annex C, Operations Overlay.

c. Attachments and Detachments. Annex A, Task Organization.

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2. MISSION. Install, operate, and maintain a complete signal support system in support of the division attack.

3. EXECUTION.

a. Concept. Signal support will be normal for division attack. All initial signal communication means will be operative by H-hour minus 4.

b. 20th Signal Battalion.

(1) Alert one still photographer for special air photography mission to be accomplished on order of division signal officer.

(2) Install and operate multichannel radio relay terminal at 2/62 Inf CP in objective area on order of division signal officer.

(3) Establish mobile photo lab at division air strip.

(4) Prepare to operate air drop and pickup station.

(5) Station mobile signal maintenance team at division air strip.

c. 1/61 Inf. Install 2 wire circuits to 4/64 Inf CP.

d. 2/62 Inf. Prepare to receive multichannel radio relay team, with equipment, in objective area.

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e. 20th Avn Co.

- (1) Equip two aircraft with tactical FM radio sets, with priority of employment as aerial FM-VOICE radio relays on order of division signal officer.
- (2) Be prepared to fly special air photography mission with signal photographers on order of division G2.

f. Coordinating Instructions.

- (1) Provide signal support in accordance with division SOP, except as modified by Operation Order 7.
- (2) Appendix 1, Wire and Radio Relay Net Diagram.
- (3) Appendix 2, Radio Net Diagram.
- (4) Appendix 3, Teletypewriter Net Diagram.
- (5) Appendix 4, Telephone Traffic Diagram.
- (6) Maintain radio silence until H-hour.
- (7) Notify division signal officer immediately of command post displacements. Include specific location of new command post.
- (8) Advance units cut field wire lines leading into enemy territory. End of enemy portion of line will be shorted and grounded. Report action to division signal officer.
- (9) Interrupt civilian telephone cables and open wire lines only on division order.

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- (10) Report enemy jamming and electronic countermeasures activities to division signal officer. State time, radio frequency, signal strength, type activity, and duration.
- (11) Jam enemy radio channels and transmit in enemy radio nets only when directed by this headquarters.
- (12) Seize and guard enemy fixed station radio installations and wire facilities, but do not use them. Report locations to division signal officer.

4. ADMINISTRATION AND LOGISTICS.

- a. Administrative Order 2.
- b. Signal messengers and wire teams have priority on roads and trails.
- c. Mobile signal maintenance team at division air strip to provide emergency third echelon maintenance.

5. COMMAND AND SIGNAL.

- a. SOI Index 1-3.
 - b. Division signal officer at division advance.
- Acknowledge.

BURNS
Maj Gen

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Appendixes: 1—Wire and Radio Relay Diagram
(omitted).

2—Radio Net Diagram.

3—Teletypewriter Net Diagram
(omitted).

4—Telephone Traffic Diagram.

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/s/ Stonewall
STONEWALL
G3

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271800 OCT 1962
CX 40

APPENDIX 2 (RADIO NETS) TO ANNEX E (SIGNAL) TO OPO 7

NET UNIT	ARMY AIR RQST AM-RTT	***	CORPS CMD #1 AM-RTT	***	DIV CMD/OPN AM-RTT	***	DIV ADM/LOG AM-RTT	***	DIV AIR RQST AM-CW; VOICE
THIRTIETH ARMY	GRC-26	***	X	***	X	***	X	***	X
II CORPS	GRC-26	***	GRC-26	***	X	***	X	***	X
* * * * *									
DIV MAIN	X	***	GRC-26 (S)	***	GRC-26 (S)	***	GRC-26 (S)	***	GRC-19 (S)
* * * * *									
DIV FSCC	GRC-26 (S)	***	X	***	X	***	X	***	GRC-19 (S)
* * * * *									
1/61 INF	X	***	X	***	GRC-46	***	GRC-46 NOTE 2	***	GRC-19 NOTE 1
20TH ENGR BN	X	***	X	***	GRC-46	***	GRC-46	***	X
* * * * *									

NOTES:

1. MONITORS NET, ENTERS NET BY SWITCHING SET FROM ANOTHER NET.
 2. ENTERS NET AS REQUIRED BY SWITCHING SET FROM ANOTHER NET.
- (S) PERSONNEL AND EQUIPMENT FURNISHED BY DIV SIG BN.

ACKNOWLEDGE.

BURNS
MAJ GEN

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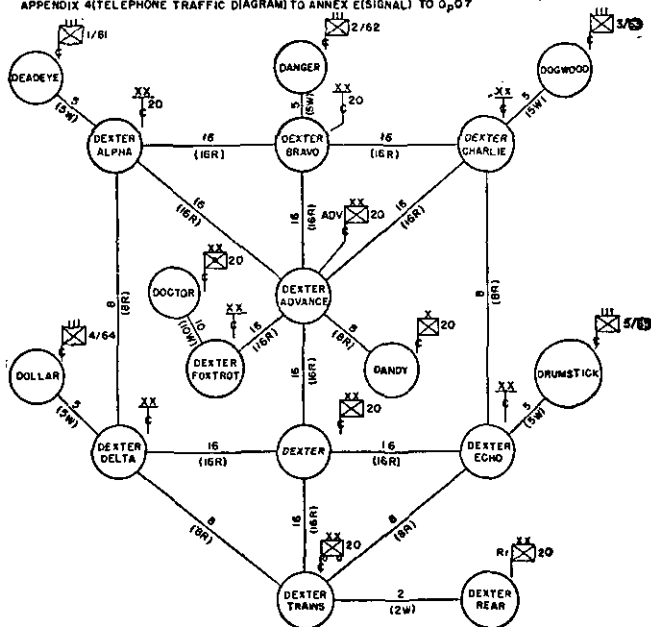
/S/STONEWALL
STONEWALL
G3

FMII-16-22

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20TH INF DIV
OSAKA, JAPAN
271800 OCT 65
CX 37

APPENDIX 4 (TELEPHONE TRAFFIC DIAGRAM) TO ANNEX E (SIGNAL) TO O_P07

ACKNOWLEDGE

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FBI-10-29

(CLASSIFICATION)

APPENDIX V

SIGNAL OPERATION INSTRUCTIONS

(CLASSIFICATION)

20th

INFANTRY
DIVISION

SOI

(CLASSIFICATION)

FM11-16-15

(CLASSIFICATION)

SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 1-25

HQ 20TH INFANTRY DIV

AP0 20

SOI INDEX

EFFECTIVE 010001 Feb 62

<u>TITLE</u>	<u>SOI ITEM NO.</u>	<u>EFFECTIVE DATE</u>
<u>General Section</u>		
Index to SOI	1-25	1 Feb 62
General Information	2-5	1 Aug 61
Distribution S	3-1	1 Jan 61
<u>Code and Cipher Section</u>		
Authentication Systems	7-4	1 Feb 62
Cryptographic Systems	8-16	1 Feb 62
Panel Code and Recognition Signals	9-5	1 Feb 62
Air-ground Recognition Signals	10-2	1 Feb 62
OpCode (omitted)	11-2	1 Feb 62
Maplay (omitted)	12-4	1 Feb 62
Friendly Atomic Strike Warning System	13-1	1 Feb 62
<u>Radio Communication Section</u>		
Radio Call Signs and Frequencies, 20th Infantry Div Nets	20-4	1 Feb 62

Page 1 of 3 pages

SOI ITEM 1-25

(CLASSIFICATION)

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<u>TITLE</u>	<u>SOI ITEM NO.</u>	<u>EFFECTIVE DATE</u>
Radio Call Signs and Frequencies, 20th Inf Div Arty Nets (omitted)	20.1-3	1 Feb 62
Radio Call Signs and Frequencies, 1/61 Inf Nets (omitted)	20.2-2	1 Feb 62
Radio Call Signs and Frequencies, 2/62 Inf Nets (omitted)	20.3-2	1 Feb 62
Radio Call Signs and Frequencies, 3/63 Inf Nets (omitted)	20.4-2	1 Feb 62
Radio Call Signs and Frequencies, 4/64 Inf Nets (omitted)	20.5-2	1 Feb 62
Radio Call Signs and Frequencies, 5/65 Inf Nets (omitted)	20.6-2	1 Feb 62
Radio Call Signs and Frequencies, 20th Inf Div Sep Unit Nets (omitted)	20.7-2	1 Feb 62
Radio Call Signs and Frequencies, Radio/ wire Integration System	20.8-4	1 Feb 62
Radio Callword Suffixes	23-2	1 Feb 62
Radio Callword Suffixes, 20th Inf Div Arty	23.1-1	1 Feb 62

Page 2 of 3 pages

SOI ITEM 1-25

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<u>TITLE</u>	<u>SOI ITEM NO.</u>	<u>EFFECTIVE DATE</u>
Radio Relay Frequencies	25-4	1 Feb 62
<u>Wire Communication</u>		
<u>Section</u>		
Wire Tagging Code	30-2	1 Feb 62
Telephone Directory	31-4	1 Feb 62
Teletypewriter Call Signs	32-5	1 Feb 62
<u>Visual and Sonic Section</u>		
<u>Pyrotechnic & Smoke</u>		
Signals	40-13	1 Feb 62
<u>Vehicular Identification</u>		
Markings	42-16	1 Feb 62
<u>Miscellaneous Section</u>		
Sun and Moon Data	45-3	1 Feb 62
Messenger Routes and Schedules	47-4	1 Feb 62

FOR THE COMMANDER

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WELLINGTON
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Page 3 of 3 pages

SOI ITEM 1-25

(CLASSIFICATION)

(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 2-5

HQ 20TH INFANTRY DIV APO 20 GENERAL INFORMATION

EFFECTIVE 010001 Aug 61

1. The items contained in Signal Operation Instructions, 20th Infantry Division, are effective on the dates shown in the individual items. Extracts of the items may be made as required, with the provision that all extracts will be safeguarded in compliance with AR 380-5.
2. Units of this division, temporarily attached to commands outside the division, will retain the assignments made herein, but will use them only when so directed by the authority exercising operational control. Units temporarily attached to this headquarters will use SOI assignments made by their parent organizations only when so directed by this headquarters.
3. Unit commanders are responsible for safeguarding classified documents and cryptographic devices, and for taking measures to assure prompt discovery of their loss. The loss or possible compromise of an SOI item, an extract of an SOI item, or a cryptographic device, will be reported immediately in an OPERA-

Page 1 of 2 pages

SOI ITEM 2-5
(CLASSIFICATION)

(CLASSIFICATION)

TIONAL IMMEDIATE message to the division signal officer.

4. When capture is imminent, all SOI items, SOI extracts, cryptographic devices, and cryptographic materials will be destroyed beyond recognition. A report of the material destroyed will be made to the issuing authority as soon as possible, by any means available.
5. Unit communications officers are responsible to their unit commanders for proper distribution of SOI items and for the preparation of additional instructions required by their units. Two copies of the additional instructions will be forwarded promptly, when published, to the division signal officer. All SOI's will be kept current, and superseded items will be destroyed by burning. When superseded, SOI items of the 6 through 15 series only are destroyed, reports of destruction will be forwarded to the division signal officer.

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Page 2 of 2 pages

SOI ITEM 2-5

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(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 3-1

HQ 20TH INFANTRY DIV		APO 20										DISTRIBUTION S				
EFFECTIVE 010001 Jan 61																
Organization		Item Numbers														
		1	2	3	7	8	*	*	*	*	32	40	42	45	47	
Thirtieth Army		3	3	3	3	3	*	*	*	*	3	3	3	3	3	3
II Corps		3	3	3	3	3	*	*	*	*	3	3	3	3	3	3
55th Inf Div		2	2	2	2	2	*	*	*	*	2	2	2	2	2	2
72d Inf Div		2	2	2	2	2	*	*	*	*	2	2	2	2	2	2
Div Arty		25	25	25	25	20	*	*	*	*	25	25	25	25	25	25
Brigade		2	2	2	2	—	*	*	*	*	2	2	2	2	2	2
Div SigO		10	10	10	10	2	*	*	*	*	10	10	10	10	10	10
Div Hq Co		1	1	1	1	—	*	*	*	*	—	1	1	—	1	1
20th Sig Bn		20	20	20	20	14	*	*	*	*	31	20	20	20	20	20

1/21 Cav	4	4	4	4	1	*	*	*	1	4	6	4	4
20th Eng Cmbt Bn	2	2	2	2	1	*	*	*	2	6	6	2	2
20th Med Bn	1	1	1	1	—	*	*	*	1	1	1	1	1

* * *

* *

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Page 1 of 1 page

(CLASSIFICATION)

SOI ITEM 3-1

(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 7-4

HQ 20TH INFANTRY DIV APO 20 AUTHENTICATION SYSTEMS

EFFECTIVE 010001 Feb 62

(Body of item is placed here)

(See AFSAG 1247A)

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Page 1 of 1 page

SOI ITEM 7-4
(CLASSIFICATION)

(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 8-16

HQ 20TH INFANTRY DIV APO 20 CRYPTOGRAPHIC SYSTEMS

EFFECTIVE 010001 Feb 62

(Body of item is placed here)

(KAO-11/TSEC)

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Page 1 of 1 page

SOI ITEM 8-16
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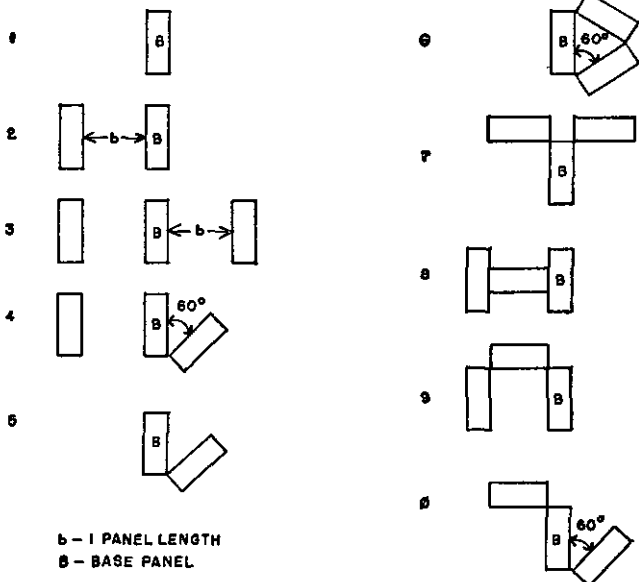
(CLASSIFICATION)
 SIGNAL OPERATION INSTRUCTIONS
 ITEM NO. 9-5

HQ 20TH INFANTRY DIV APO 20
 PANEL CODE AND RECOGNITION SIGNALS

EFFECTIVE 010001 Feb 62

Part I. PANEL CODE

NUMERALS



b - 1 PANEL LENGTH
 B - BASE PANEL

FM 11-16-7

Page 1 of 5 pages

SOI ITEM 9-5
 (CLASSIFICATION)

(CLASSIFICATION)

INDICATORS

(Indicator panel displays are shown here graphically)

SPECIAL SIGNS

(Panel displays having special meanings are shown here)

EXAMPLE OF PANEL DISPLAY

(An example display may be shown, indicating the meaning of the display and explaining each panel in the display)

VOCABULARY

a. Essential Battle Messages.

Ø OK to land or drop here.

1 We are attacking.

* * * * *

9 *

b. Information Friendly Action.

ØØ I am staying where I am.

Page 2 of 5 pages

SOI ITEM 9-5

(CLASSIFICATION)

(CLASSIFICATION)

ø1 Our attack has failed

* * * * *

ø9 Am moving headquarters (to coordinates indicated).

c. Prosigns.

1ø Wait (____ minutes).

11 I have a message for you.

* * * * *

19 Come again tomorrow (or at (date time group)).

d. Communications.

2ø I am not receiving your signals.

21 Your signals are weak.

* * * * *

29 *

e. Artillery Observations.

3ø Not ready to fire.

31 Ready to engage target.

* * * * *

35 *

f. General.

36 I know my position.

37 I am heading for the coast in the direction indicated.

* * * * *

39 No assistance required.

Page 3 of 5 pages

SOI ITEM 9-5

(CLASSIFICATION)

(CLASSIFICATION)

g. Special Requirements.

40 Require the following (letter groups follow).

41 Require reinforcements.

* * * * *

49 *

h. Information Enemy Action.

50 Enemy attacking (from direction indicated).

51 Enemy in possession of landing area.

* * * * *

59 Enemy artillery (in direction indicated)
(at _____ coordinates).

i. Instructions to Aircraft.

60 Reconnoiter in direction indicated.

61 Following is a magnetic azimuth.

* * * * *

69 *

* Meaning not assigned

Page 4 of 5 pages

SOI ITEM 9-5
(CLASSIFICATION)

(CLASSIFICATION)

Part II. PANEL RECOGNITION SIGNALS

<u>ENCODING SECTION</u>		<u>DECODING SECTION</u>	
<u>Headquarters</u>	<u>Code No.</u>	<u>Code No.</u>	<u>Headquarters</u>
20th Inf Div	401	100	20th Avn Co
Brigade	104	101	Hq Co, 1/61 Inf
Div Arty	257	102	Div Hq Co
1/61 Inf	368	103	Mort 5/65 Inf
Hq Co, 1/61 Inf	101	104	Brigade
*	*	*	*

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Page 5 of 5 pages

SOI ITEM 9-5
(CLASSIFICATION)

(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 10-2

HQ 20TH INFANTRY DIV AIR-GROUND RECOGNITION SIGNALS
APO 20

EFFECTIVE 010001 Feb 62

DATE	TIME	PYROTECHNIC STAR	PANELS
1 JAN 62	0001-I TO 2400-I	RED YELLOW	R E D YELLOW
2 JAN 62	0001-I TO 2400-I	GREEN GREEN	R E D
3 JAN 62	0001-I TO 2400-I	RED GREEN	R YELLOW D
4 JAN 62	0001-I TO 2400-I	GREEN YELLOW	R E D
5 JAN 62	0001-I TO 2400-I	GREEN RED	R YELLOW D
6 JAN 62	0001-I TO 2400-I	GREEN GREEN	R E D YELLOW
7 JAN 62	0001-I TO 2400-I	RED GREEN	R YELLOW D

FMII-16-11

* * * * *

Page 1 of 1 page

SOI ITEM 10-2
(CLASSIFICATION)

(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 13-1

HQ 20TH INFANTRY DIV APO 20
FRIENDLY ATOMIC STRIKE WARNING SYSTEM

EFFECTIVE 010001 Feb 62

(Body of item is placed here)

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Page 1 of 1 page

SOI ITEM 13-1
(CLASSIFICATION)

(CLASSIFICATION)

SIGNAL OPERATION INSTRUCTIONS

ITEM NO. 20-4

HQ 20TH INFANTRY DIV APO 20
 RADIO CALL SIGNS AND FREQUENCIES
 20TH INFANTRY DIV NETS

EFFECTIVE 010001 Feb 62

<u>UNIT</u>	<u>CALL SIGNS</u>		<u>FREQUENCIES</u> (KC)	
	A	B	A	B
<u>Div Comd/opns Net (RTT)</u>				
Net Call	02G	2IQ6	T-4195 R-3200	4368 5100
Div Advance	55W9	46B8		
Div Main	J5Z8	57M6		
Brigade	9V53	2E44		
Div Arty	B3H4	7Y13		
1/61 Inf	L1B6	C7C5		
2/62 Inf	76F4	B9R1		
3/63 Inf	7Q7B	X29E		
4/64 Inf	L78P	B1E3		
5/65 Inf	6CLD	DS45		
1/1 Armor	QK49	6P8R		
1/21 Cav	Q315	F5X7		
*	*	*	*	*

(Page 1 of 2 pages)

SOI ITEM 20-4

(CLASSIFICATION)

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<u>UNIT</u>	<u>CALL SIGNS</u>		<u>FREQUENCIES</u> (KC)	
	A	B	A	B
<u>Div Intelligence Net (RTT)</u>				
Net Call	Y5N4	KM9	T-4059	4501
			R-5310	3040
Div Advance	55W9	46B8		
* *	*		*	*
<u>Div CG Comd Net (FM)</u>				
Net Call	BLUEJAY	BACON	44.2	51.7
* *	*		*	*
<u>Div Adm/log Net (RTT)</u>				
* *	*		*	*
<u>Div Air Request Net (AM CW-VOICE)</u>				
* *	*		*	*
<u>Div Warning Net (AM VOICE)</u>				
* *	*		*	*

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Page 2 of 2 pages

SOI ITEM 20-4
(CLASSIFICATION)

(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 20.8-4

HQ 20TH INFANTRY DIV APO 20
RADIO CALL SIGNS & FREQUENCIES,
RADIO/WIRE INTEGRATION SYSTEM

EFFECTIVE 010001 Feb 62

<u>STATION</u>	<u>CALLWORD</u>		<u>FREQUENCY (mc)</u>	
	A	B	A	B
Div Main	MULE TRAIN	BOOT HILL	42.8	50.3
Div Adv	INDIAN	LONGHORN	38.6	38.2
Div Trains	BLACKSMITH	WARRIOR	41.9	53.9
*	*	*	*	*

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Page 1 of 1 page

SOI ITEM 20.8-4
(CLASSIFICATION)

(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 23-2

HQ 20TH INFANTRY DIV APO 20
RADIO CALLWORD SUFFIXES

EFFECTIVE 010001 Feb 62

<u>Station</u>	<u>Suffix</u>	<u>Station</u>	<u>Suffix</u>
CG (CO)	CADILLAC	SigO (CommO)	CORVETTE
CofS (Exec)	IMPERIAL	QM (Supply O)	INDIANA
*	*	*	*

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Page 1 of 1 page
SOI ITEM 23-2
(CLASSIFICATION)

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SIGNAL OPERATION INSTRUCTIONS

ITEM NO. 23.1-1

HQ 20TH INFANTRY DIV	APO 20	RADIO CALLWORD SUFFIXES, DIV ARTY
----------------------	--------	--------------------------------------

EFFECTIVE 010001 Feb 62

<u>Station</u>	<u>Suffix</u>	<u>Station</u>	<u>Suffix</u>
<u>Hq & Hq Btry</u>			
CO or CG, Div Arty	1	Radar Site No 1	16
ExO	2	Radar Off No 2	17
Asst ExO	3	Radar Site No 2	18
S2	4	Meteorological	19
S3	5	Station	
S4	6	Check Chart A	20
CommO	7	LnO No 1	21
Base Set C or CF	8	LnO No 2	22
FDC	9	LnO No 3	23
Fire Dir Officer	10	LnO No 4	24
Hq Btry Cmdr	11	Svc Btry Hq	29
Motor Officer	12	Check Chart 13	30
Recon & Surv Off	13	Survey Party	36
Fire Support Sec	14	Survey Party	37
Radar Off No 1	15	Survey Party	38

Page 1 of 2 pages

SOI ITEM 23.1-1

(CLASSIFICATION)

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<u>Station</u>	<u>Suffix</u>	<u>Station</u>	<u>Suffix</u>
Survey Party	39	Check Chart D	50
Check Chart C	40	Check Chart E	60
<u>Howitzer, Rocket, or Mortar Btry</u>			
*	*	*	*

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Page 2 of 2 pages

SOI ITEM 23.1-1

(CLASSIFICATION)

(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 25-4

HQ 20TH INFANTRY DIV	APO 20	RADIO RELAY FREQUENCIES
----------------------	--------	-------------------------

EFFECTIVE 010001 Feb 62

System	Polarization	Frequencies (mc)
DEXTER-DONKEY	A-Horiz B-Vert	A-77.9 B-94.3
	Horiz Vert	75.7 79.6
DEXTER-DONKEY	A-Vert B-Horiz	A-77.5 B-88.4
*	*	*

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Page 1 of 1 page
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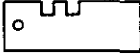
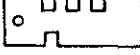
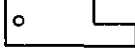
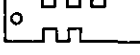
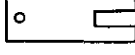
SOI ITEM 25-4

(CLASSIFICATION)
 SIGNAL OPERATION INSTRUCTIONS
 ITEM NO. 30-2

HQ 20TH INFANTRY DIV APO 20 WIRE TAGGING CODE

EFFECTIVE 010001 Feb 62

This tagging code prescribed for use within the 20th Inf Div. The notches on a wire tag will indicate the unit responsible for laying the wire.

20TH SIG BN			20TH INF DIV ARTY
1/61 INF			1/1 ARMOR
2/62 INF			1/1 CAV
3/63 INF			20TH ENGR CMBT BN
4/64 INF			20TH COMBAT AVN CO
5/65 INF			20TH ORD BN

FMII-16-17

* * * *

Page 1 of 1 page
 SOI ITEM 30-2
 (CLASSIFICATION)

(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 31-4

HQ 20TH INFANTRY DIV APO 20 TELEPHONE DIRECTORY

EFFECTIVE 010001 Feb 62

1. Telephone Directory Code Names.

<u>Unit</u>	<u>Name</u>
20th Inf Div Main	DEXTER
20th Inf Div Ad- vance	DEXTER ADVANCE
20th Inf Div Rear	DEXTER REAR
* *	* *
1/1 Calvary	DRAGON
20th Aviation Co	DANGLE
20th Engineer Com- bat Bn	DYNAMITE
* *	* *

2. Suffixes.

- a. Color. Add the suffix BLACK to the telephone directory code name of a battle group (or separate battalion) to indicate Hq (or H&S) Co. Add the suffix PURPLE to the name to indicate Mortar Battery. Following is an example of this usage:

Page 1 of 3 pages

SOI ITEM 31-4

(CLASSIFICATION)

(CLASSIFICATION)

Mortar Btry, 1/61 Inf: DEADEYE PURPLE

b. Letter.

(1) Add the suffix ALPHA (or BRAVO, CHARLIE, or DELTA) to the telephone directory code name of a battle group (or separate battalion) to indicate Company A (or B, C, or D) of the parent organization. Following is an example of this usage:
Company C, 1/61 Inf: DEADEYE CHARLIE

(2) Letter suffixes also will be added to the division forward signal centers and all other division signal centers normally not identified by the telephone directory code name of the major subscriber headquarters. Following is an example of this usage:
20th Inf Div Fwd Sig Cen B: DEXTER BRAVO

3. Telephone Directory Numbers.

a. Offices and Activities. See SSL Item No. 31-().

b. Units and Installations.

<u>Unit</u>	<u>Number</u>
20th Inf Div Landing Field	103
20th Inf Div OP No. 1	105
* * * *	*

Page 2 of 3 pages

SOI ITEM 31-4

(CLASSIFICATION)

(CLASSIFICATION)

20th Inf Div Coll Sta No. 1 109

20th Inf Div Coll Sta No. 2 112

* * * * *

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Signal Officer

Page 3 of 3 pages

SOI ITEM 31-4

(CLASSIFICATION)

(CLASSIFICATION)

SIGNAL OPERATION INSTRUCTIONS

ITEM NO. 32-5

HQ 20TH INFANTRY DIV

AFO 20

**TELETYPEWRITER CALL
SIGNS**

EFFECTIVE 010001 Feb 62

Headquarters Call Sign

Headquarters Call Sign

Div Main

CLA

4/64 Inf

LVK

Div Adv

ALC

5/65 Inf

FZI

Div Rr

BXY

20th Eng

AXE

Cmbt Bn

✻

✱

*

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*

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/s/ Wellington

WELLINGTON

Signal Officer

Page 1 of 1 page

SOI ITEM 32-5

(CLASSIFICATION)

(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 40-13

HQ 20TH INFANTRY DIV APO 20 PYROTECHNIC & SMOKE
SIGNALS

EFFECTIVE 010001 Feb 62

1. Pyrotechnic signals (ground).

<u>Signal</u>	<u>Meaning</u>	<u>Type</u>
White Star	Fire prearranged fires	M18A1
Cluster	according to schedule,	
Green Star	Artillery rounds falling	M19A1
Cluster	short.	

* * * *

2. Pyrotechnic signals (air).

<u>Signal</u>	<u>Meaning</u>	<u>Type</u>
Green Star	Identify yourself.	AM-M45 or
(single)		AM-M45A1

* * * *

3. Smoke signals.

<u>Signal</u>	<u>Meaning</u>
Red	I am friendly or understood
Yellow	Drop supplies here.

* * * *

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Page 1 of 2 pages

SOI ITEM 40-13
(CLASSIFICATION)

(CLASSIFICATION)

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WELLINGTON
Signal Officer

Page 2 of 2 pages

SOI ITEM 40-13

(CLASSIFICATION)

(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 42-2

HQ 20TH INFANTRY DIV

AP0 20

VEHICULAR IDENT
MARKING

EFFECTIVE 010001 Feb 62

Vehicle identification panel colors assigned for use
during month of Feb 62 as indicated in SSI.

Date & Time

Panel Color

010001-092400

RED

100001-172400

YELLOW

*

*

*

*

*

FOR THE COMMANDER
BRATTON
Colonel

Distribution: S

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BRATTON
Colonel

Page 1 of 1 page

SOI ITEM 42-2

(CLASSIFICATION)

(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 45-3

HQ 20TH INFANTRY DIV APO 20 SUN & MOON DATA

EFFECTIVE 010001 Feb 62

<u>Date</u> <u>(Feb)</u>	<u>BMNT</u>	<u>Sunrise</u>	<u>Sunset</u>	<u>EENT</u>	<u>Moonrise</u>	<u>Moonset</u>
1	0718	0758	1729	1745	2149	-----
2	0717	0758	1729	1746	2243	-----
3	0716	0759	1730	1747	(1) 2336	-----
4	0715	0759	1730	1748	-----	-----

*

*

*

*

*

(1) New
moon.

(2) 1st
quarter

(3) Full

(4) Last
quarter

FOR THE COMMANDER

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Page 1 of 1 page

SOI ITEM 45-3
(CLASSIFICATION)

(CLASSIFICATION)
SIGNAL OPERATION INSTRUCTIONS
ITEM NO. 47-4

HQ 20TH INFANTRY DIV APO 20
MESSENGER ROUTES & SCHEDULES

EFFECTIVE 010001 Feb 62

Division messenger system operated daily by 20th Signal Battalion.

<u>Headquarters</u>	<u>Time</u>		
<u>Route 1—Motor messenger.</u>			
Lv Div Adv Sig Center	0600	1300	1900
Fwd Sig Center No. 1	0635	1335	1945
1/61 Inf	0655	1355	2015
Fwd Sig Center No. 1	0715	1415	2045
Fwd Sig Center No. 2	0750	1450	2130
2/62 Inf	0810	1510	2200
Fwd Sig Center No. 2	0830	1530	2230
Arr Div Adv Sig Center	0905	1605	2315
<u>Route 2—Motor messenger.</u>			
*	*	*	*
<u>Route 9—Air messenger.</u>			
*	*	*	*

FOR THE COMMANDER

BRATTON
Colonel

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SOI ITEM 47-4
(CLASSIFICATION)

(CLASSIFICATION)

Distribution: S

OFFICIAL:

/s/ Wellington
WELLINGTON
Signal Officer

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SOI ITEM 47-4
(CLASSIFICATION)

APPENDIX VI
STANDING SIGNAL INSTRUCTIONS

(CLASSIFICATION)

20 *th*

INFANTRY
DIVISION

SSI

(CLASSIFICATION)

FM11-16-16

(CLASSIFICATION)
(STANDING SIGNAL INSTRUCTIONS)
Item No. 1-4

HQ 20TH INFANTRY DIV	APO 20	SSI INDEX
EFFECTIVE 010001 Feb 62		
<u>TITLE</u>	<u>SSI ITEM NO.</u>	<u>EFFECTIVE DATE</u>
General Section		
Index to SSI	1-4	1 Feb 62
General Information	2-4	1 Feb 62
Distribution S	3-1	1 Aug 61
<u>Code and Cipher Section</u>		
Authentication Systems	7-1	1 Sep 61
Cryptographic Systems	8-1	1 Sep 61
Panel Code and Recognition Signals	9-2	1 Nov 61

Air-Ground Recognition Signals	10-4	1 Feb 62
OpCode (omitted)	11-1	1 Aug 61
Marplay (omitted)	12-1	1 Aug 61
Friendly Atomic Strike Code	13-1	1 Feb 62
<u>Radio Communication Section</u>		
Radio Call Signs and Frequencies	20-2	1 Oct 61
Radio/wire Integration System	20.8-1	1 Dec 61
Radio Callword Suffixes (omitted)	23-1	1 Aug 61
Radio Relay Frequencies	25-2	1 Dec 61
<u>Wire Communication Section</u>		
Wire Tagging Code	30-1	1 Aug 61
Telephone Directory	31-1	1 Aug 61
Teletypewriter Call Signs (omitted)	32-1	1 Aug 61

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(CLASSIFICATION)

SOI ITEM 1-4

(CLASSIFICATION)

<u>TITLE</u>	<u>SSI ITEM NO.</u>	<u>EFFECTIVE DATE</u>
Visual and Sonic Section		
Pyrotechnic and Smoke Signals	40-1	1 Aug 61
Vehicular Identification Markings	42-1	1 Aug 61
Visual and Sound Signals	44-1	1 Aug 61
Miscellaneous Section		
<u>Sun and Moon Data</u> (omitted)	45-1	1 Aug 61

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Signal Officer

Page 2 of 2 pages

(CLASSIFICATION)

SSI ITEM 1-4

(CLASSIFICATION)
STANDING SIGNAL INSTRUCTIONS
ITEM NO. 2-4

HQ 20TH INFANTRY DIV APO 20 GENERAL INFORMATION

EFFECTIVE 010001 Feb 62

1. General

- a. The division signal officer, 20th Infantry Division, is designated the coordinating staff officer for preparation and issuance of signal operation instructions and standing signal instructions within the 20th Infantry Division.
- b. Errors or requests for changes in these signal instructions will be submitted to the division signal officer. No changes will be made except upon authority of this headquarters.
- c. Distribution of signal instructions is limited, with extracts being held in reserve for additional distribution when required. See SSI ITEM NO. 3-(), Distribution S.
- d. Radio call signs and frequencies, telephone directory names, and wire tagging codes assigned to SOI to 20th Infantry Division units will be used only by units to which assigned.

Page 1 of 5 pages

SSI ITEM 2-4
(CLASSIFICATION)

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2. Security

- a. Signal Operation Instructions will not be taken forward of front line battalion or battle group command posts. When it is necessary for lower units to have SOI material, extracts showing the least possible information will be used.
- b. Messages transmitted by radio will be encrypted, except when the urgency of the message precludes allowance of time for encryption and the information cannot be used by the enemy in time to be of value to him. The commander, or his authorized representative, who authorizes a message to be transmitted in plain text is responsible for the propriety of the action. The provisions of ACP 122(B) govern transmissions "in the clear."
- c. During combat, when in imminent danger of capture, cryptographic security devices and codes will be destroyed beyond recognition. A report of the material destroyed will be made to the issuing authority as soon as possible, by any means available.

3. Communications Center Operation

- a. Centers will be operated on a 24-hour per day basis.

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SSI ITEM 2-4

(CLASSIFICATION)

(CLASSIFICATION)

- b. Stenographic or clerical work required in preparation of messages or other materials for handling through communication centers will be accomplished before delivery of the messages to the centers.
- c. When an outgoing message requires multiple transmission, the necessary number of copies will be furnished to the communication center so that the center clerks need not prepare additional copies.
- d. Communication centers are prohibited from preparing copies of incoming messages for multiple distribution in the addressee headquarters.
- e. When it is necessary for an originator to distribute a number of copies of reproduced material to single addressee, the following steps will be taken before the material is delivered to the communication center for action.
 - (1) Assemble the number of copies required.
 - (2) Prepare a package of the material by wrapping, binding, placing it in an envelope, etc.
 - (3) Plainly indicate the destination on the outside of the package.
 - (4) When this type of distribution is to be delivered to more than one addressee, ac-

Page 3 of 5 pages

SSI ITEM 2-4

(CLASSIFICATION)

(CLASSIFICATION)

comply steps (1), (2), and (3) for each addressee.

- (5) Deliver each package to the communication center for handling as a single message. Each package normally will be dispatched by messenger.

4. Radio Operation.

- a. All instances of radio interference will be reported to the division signal officer. Complete information relating to call signs, operating frequencies, times of concurrence, duration of interference, and all other pertinent facts will be given.
- b. No radio set of any unit will be operated at any time on a frequency other than that assigned by this headquarters. Unit commanders will require frequent checks to assure that their radio nets are on the correct operating frequencies.
- c. All messages and transmissions pertaining to radio net operation will be authenticated.
- d. Radio transmissions will be restricted to those required in carrying on authorized communication, and will be made with minimum power output necessary for satisfactory operation.

Page 4 of 5 pages

SSI ITEM 2-4

(CLASSIFICATION)

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- e. Radio silence is the condition under which all radio sets (transmitters and receivers) will be turned off for the purpose of enforcing radio transmission security. The periods of radio silence are normally predetermined and ordered by a commander.
- f. Listening silence is the condition under which all radio transmitters used for signal communication within a command are completely shut down and not operated except under circumstances specifically prescribed in orders. During listening silence, radio receivers remain on net frequency unless specific orders to the contrary are issued.

5. Telephone Operation.

To identify parties placing and receiving telephone calls, telephone authentication as provided in SOI ITEM NO. 7-() will be used when there is cause for suspicion.

FOR THE COMMANDER

BRATTON
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/s/ Wellington
WELLINGTON
Signal Officer

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SSI ITEM 2-4

(CLASSIFICATION)

(CLASSIFICATION)
STANDING SIGNAL INSTRUCTIONS
ITEM NO. 3-1

HQ 20TH INFANTRY DIV	APO 20										DISTRIBUTION S
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EFFECTIVE 010001 Aug 61

<u>Organization</u>	Item Numbers									
	1	2	3	7	8	*	*	*	*	
Thirtieth Army	3	3	3	3	3	*	*	*	*	3
II Corps	3	3	3	3	3	*	*	*	*	3
55th Inf Div	2	2	2	2	2	*	*	*	*	2
72d Inf Div	2	2	2	2	2	*	*	*	*	2
Div Arty	25	25	25	25	20	*	*	*	*	25
Brigade	2	2	2	2	—	*	*	*	*	2

Div SigO	10	10	10	10	10	10	10	10	10	10	10	10	10
Div Hq Co	1	1	1	1	1	—	*	*	*	—	1	1	—
20th Sig Bn	20	20	20	20	20	14	*	*	*	31	20	20	20
1/21 Cav	4	4	4	4	4	1	*	*	*	1	4	4	4
20th Eng Cmbt Bn	2	2	2	2	2	1	*	*	*	2	6	2	2
20th Med Bn	1	1	1	1	1	—	*	*	*	1	1	1	1

* * *

FOR THE COMMANDER

BRATTON
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/s/ Wellington
WELLINGTON
Signal Officer

Page 1 of 1 page
(CLASSIFICATION)

SSI ITEM 3-1

(CLASSIFICATION)
STANDING SIGNAL INSTRUCTIONS
ITEM NO. 7-1

HQ 20TH INFANTRY DIV APO 20 AUTHENTICATION SYSTEMS

EFFECTIVE ~~010000~~1 Sep 61

(See AFSAG 1247A)

FOR THE COMMANDER

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Colonel

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/s/ Wellington
WELLINGTON
Signal Officer

Page 1 of 1 page

SSI ITEM 7-1
(CLASSIFICATION)

(CLASSIFICATION)
STANDING SIGNAL INSTRUCTIONS
ITEM NO. 8-1

HQ 20TH INFANTRY DIV APO 20 CRYPTOGRAPHIC SYSTEMS

EFFECTIVE 010001 Sep 61

(KAO-11/TSEC)

FOR THE COMMANDER

BRATTON
Colonel

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/s/ Wellington
WELLINGTON
Signal Officer

Page 1 of 1 page

SSI ITEM 8-1
(CLASSIFICATION)

(CLASSIFICATION)
STANDING SIGNAL INSTRUCTIONS
ITEM NO. 9-2

HQ 20TH INFANTRY DIV APO 20
PANEL CODE & RECOGNITION SIGNALS

EFFECTIVE 010001 Nov 61

1. General Instructions.

- a. Recognition panel displays will consist of a flash index and one (1), two (2), or three (3) numerals, as indicated in SOI ITEM NO. 9-().
- b. Panel AP-30-(), or improvised panels, may be used for these displays.
- c. Except for required extracts, this code will not be taken forward of command posts of units to which issued. Extracts will be held to the minimum information necessary for operation by using personnel.
- d. Aircraft engaged in air-ground panel communication will conduct their flights to insure minimum opportunity for the enemy to determine the location of panel stations or command posts.

2. Special Instructions.

- a. Flash Index. The flash index is a signal

Page 1 of 2 pages

SSI ITEM 9-2
(CLASSIFICATION)

(CLASSIFICATION)

panel laid at right angles to, and centered above, the numeral base panels. It is the last panel laid out on completion of a display and is the first panel to be removed when a display is changed. The flash index always indicates "TOP OF NUMERAL GROUP" and "DISPLAY READY TO READ". When the letter or numeral indicator does not appear above it, the flash index also indicates "READ AS CODE".

b. Letters Indicator. The numeral "1", laid one-half panel length above the flash index and in line with the base panels of the numerals, indicates "READ AS LETTERS".

c. Numerals Indicator. The letter "Y", laid one-half panel length above the flash index and in line with the base panels of the numerals, indicates "READ AS NUMBERS".

* * * * *

FOR THE COMMANDER

BRATTON
Colonel

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/s/ Wellington
WELLINGTON
Signal Officer

Page 2 of 2 pages

SSI ITEM 9-2

(CLASSIFICATION)

(CLASSIFICATION)
STANDING SIGNAL INSTRUCTIONS
ITEM NO. 10-4

HQ 20TH INFANTRY DIV APO 20
AIR-GROUND RECOGNITION SIGNALS

EFFECTIVE 010001 Feb 62

1. Panels will be used by ground forces for identification purposes and for limited communication with aircraft. The pyrotechnics and panel displays given in SOI ITEM NO. 10-() will be placed in effect to avoid inadvertent bombing and strafing of friendly troops by friendly aircraft. The following instructions apply:
 - a. Units or command posts situated near known target areas will use pyrotechnics or panel displays when friendly aircraft approach.
 - b. Units will use air-ground recognition pyrotechnics or panel displays when subjected to attack by friendly aircraft.
 - c. Panel displays will not be permanently exposed, but will be available for immediate use in the event of hostile activity by friendly aircraft.

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SSI ITEM 10-4
(CLASSIFICATION)

(CLASSIFICATION)

- d. Instructions for display of panels or identifying markings on vehicles will not be changed by this item.
 - e. The panel recognition signals prescribed by SOI ITEM NO. 9-() will not be changed by this item.
 - f. When air-ground recognition signals prescribed in SOI ITEM NO. 10-() cannot be used, no other air-ground signals will be authorized.
 - g. In SOI ITEM NO. 10-(), panel displays are shown under the assumption that the enemy is located in the direction of the top of the page.
2. Two (2) red panels, displayed in the form of the red cross used on ambulances, will be used to indicate casualty pick-up sites to helicopters.

* * * * *

FOR THE COMMANDER

BRATTON
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Page 2 of 3 pages

SSI ITEM 10-4
(CLASSIFICATION)

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/s/ Wellington
WELLINGTON
Signal Officer

Page 3 of 3 pages

SSI ITEM 10-4
(CLASSIFICATION)

(CLASSIFICATION)
STANDING SIGNAL INSTRUCTIONS
ITEM NO. 13-1

HQ 20TH INFANTRY DIV APO 20
FRIENDLY ATOMIC STRIKE WARNING SYSTEM

EFFECTIVE 0100001 Feb 62

1. The warning for an impending friendly atomic strike will be transmitted to all friendly units by electrical and visual means. Zulu time will be used and indicated as such in the date-time groups of the message.
2. The warning message will consist of three (3) elements, given in the following sequence:

* * * * *

FOR THE COMMANDER
BRATTON
Colonel

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/s/ Wellington
WELLINGTON
Signal Officer

Page 1 of 1 page

SSI ITEM 13-1
(CLASSIFICATION)

(CLASSIFICATION)
STANDING SIGNAL INSTRUCTIONS
ITEM NO. 20-2

HQ 20TH INFANTRY DIV APO 20
RADIO CALL SIGNS & FREQUENCIES

EFFECTIVE ~~010001~~ Oct 61

1. Call signs and callwords assigned in SOI ITEM 20(. —)-() will be used for radiotelegraph and radiotelephone stations.
2. Two (2) frequencies have been assigned to most nets. The frequency listed in column A is the primary frequency, and the frequency listed in column B is the alternate frequency. When a net is subjected to jamming, stations in the net will stand by for five (5) minutes. If the jamming continues, stations will change to the alternate frequency, without awaiting instructions, and continue operations.
3. Report of jamming, or other man-made interference, will be made to the division signal officer as soon as possible. Reports will contain operating frequency, type of interference, time of occurrence, duration, and any other pertinent information.
4. Alternate call signs and callwords are assigned for most radio stations. When a shift is made to an alternate frequency, a shift to the alternate

Page 1 of 2 pages

SSI ITEM 20-2
(CLASSIFICATION)

(CLASSIFICATION)

call sign or callword also will be made, and the means operator will start a new station serial number sequence.

5. When a change from CW to VOICE is made in a radiotelegraph circuit, the call sign used for CW, not the radiotelephone callword, will continue to be used.
6. When blocks of frequencies, call signs, and callwords have been assigned to subordinate units, the reassignment of the call signs, callwords, and frequencies to specific nets and stations will be made by the units to which the block assignments are made. Reassignments will be reported to the division signal officer.

FOR THE COMMANDER

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Page 2 of 2 pages

SSI ITEM 20-2
(CLASSIFICATION)

(CLASSIFICATION)

STANDING SIGNAL INSTRUCTIONS

ITEM NO. 20.8-1

HQ 20TH INFANTRY DIV APO 20
RADIO/WIRE INTEGRATION SYSTEM

EFFECTIVE 010001 Dec 61

1. Purpose.

This item establishes a standard procedure for the integration of a wire network with an FM radio net.

2. Use.

- a. The 20th Signal Battalion will operate a radio/wire integration station at each division signal center on a 24-hour per day basis. Callwords and frequencies are assigned the stations in SOI Item 20.8-().
- b. Use of the system will be limited to instances in which communication cannot be established in the normal manner over either FM radio or telephone circuits.
- c. Normal radiotelephone procedure will be used when any portion of the communication is transmitted over the FM-VOICE radio leg of the system. When a call originates at an FM radio station, normal telephone proced-

Page 1 of 7 pages

SSI ITEM 20.8
(CLASSIFICATION)

(CLASSIFICATION)

ure will be used for communication between the radio/wire integration station operator and the telephone user over wire circuits prior to the time the FM-VOICE radio and wire circuits are interconnected and after they are disconnected. Radio callwords and telephone directory code names and numbers are assigned in the radio communication section of the SOI and in SOI Item 31-().

- d. Examples of situations in which a radio/wire integration system may be used are as follows:
- (1) A commander is in his mobile CP to which wire communication has not been installed. He needs to talk with an individual who has a telephone in the area communication system but cannot be reached by direct FM-VOICE radio communication.
 - (2) A unit CP has been displaced and normal telephone communication has not yet been established. Telephone communication over the area communication system is required.
 - (3) There is a disruption in wire circuits between two switchboards, and interim telephone communication is required.

Page 2 of 7 pages

SSI ITEM 20.8-1
(CLASSIFICATION)

(CLASSIFICATION)

- (4) Mobile combat elements have moved out of range for FM radio contact with division support elements. Telephone communication over wire circuits is not available, but telephone communication is required for an urgent support request.

3. Procedure.

a. Calls originating at a telephone in the wire network.

- (1) Calling party asks switchboard operator for Extension 26 (radio/wire integration station).
- (2) When telephone connection is made to the station, the calling party states his FM radio callword and suffix and asks the radio operator for the desired FM radio station by callword and suffix, as listed in SOI item 20.()-().
- (3) The radio operator tells the calling party to wait, switches to the desired FM station's operating frequency, and then proceeds to call the desired FM radio station. The operator may require the called party to change to the normal radio/wire

Page 3 of 7 pages

SSI ITEM 20.8-1
(CLASSIFICATION)

(CLASSIFICATION)

integration system frequency, in which case the change is accomplished before proceeding with step (4), below.

- (4) The calling party is able to hear the radio/wire integration station operator call the desired station. When the called party answers, the radio/wire integration station operator tells the calling party to proceed with his transmission. When the desired station cannot be contacted, the radio/wire integration station operator states to the calling party: "I cannot complete the call." "Call back later (or in ____ minutes)."
- (5) Since radio is employed, strict radiotelephone procedure and transmission security must be observed. For example:

Calling party: (On telephone to radio /wire integration station) "This is Bluejay Zephyr; give me Bluejay Imperial."

Station: (Answers telephone) "Wilco; wait; out."

Station: (Transmits by radio) "Bluejay Imperial; this is Cowboy; over." (Bluejay Zephyr hears the transmission through his telephone handset)

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SSI ITEM 20.8-1

(CLASSIFICATION)

(CLASSIFICATION)

Called FM radio station: "Cowboy; this is Bluejay Imperial; over."
(Bluejay Zephyr receives the answer through his telephone handset)

Station: "Bluejay Zephyr, go ahead with your call to Bluejay Imperial."

Calling party: "This is Bluejay Zephyr; (transmits message); (completes call)." (Radio/wire integration station operator hears call completed)

Station operator: (switches to telephone and rings off to switchboard)

b. Calls originating at an FM radio station.

- (1) The calling station calls the radio/wire integration station, using callwords and suffixes designated in the SOI for radio-telephone use. He asks for the desired party by callword and suffix.
- (2) The integration station operator answers the call, instructing the calling station to wait.
- (3) The integration station operator contacts the called party over the telephone network, and informs him that he has a call on FM radio. He instructs the

Page 5 of 7 pages

SSI ITEM 20.8-1

(CLASSIFICATION)

(CLASSIFICATION)

called party to use his FM callword and suffix and strict radiotelephone procedure. He then instructs the called party to make the call-up and receive the ensuing transmission. For example:

Calling party: (on FM radio) "Cowboy; this is Bluejay Imperial; give me Bluejay Zephyr; over."

Station: "This is Cowboy; wilco; wait; out."

Station: (without interconnecting the radio and telephone circuits) calls the desired party by telephone, using his telephone directory designation, and instructs him "DEAD-EYE 3 (called party); this is DEXTER-CHARLIE 26 (integration station); I have a call for you over voice radio from Bluejay Imperial; use your FM radio callword and suffix and strict radiotelephone procedure; go ahead and make your call-up; you are on the air." (interconnects radio and telephone circuits)

Called party: (when he hears the end of a momentary rushing noise in

Page 6 of 7 pages

SSI ITEM 20.8-1
(CLASSIFICATION)

(CLASSIFICATION)

the receiver) "Bluejay Imperial;
this is Bluejay Zephyr; over."

Calling party: "This is Bluejay Imperial; (transmits message); (completes call)."

Station: (hearing the call completed)
(switches to telephone and rings off
to switchboard)

- c. Challenging by telephone switchboard operators. Switchboard operators must be cautioned not to challenge a circuit being used for this purpose until the radio operator rings off. This will prevent the switchboard operator from inadvertently speaking over the radio circuit.

FOR THE COMMANDER

BRATTON
Colonel

Distribution: S

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/s/ Wellington
WELLINGTON
Signal Officer

Page 7 of 7 pages

SSI ITEM 20.8-1
(CLASSIFICATION)

(CLASSIFICATION)
STANDING SIGNAL INSTRUCTIONS
ITEM NO. 25-2

HQ 20TH INFANTRY DIV APO 20
RADIO RELAY FREQUENCIES

EFFECTIVE 010001 Dec 61

1. Frequencies assigned in SOI ITEM NO. 25-() will be used in establishing radio relay circuits between division headquarters and subordinate commands.
2. A radio relay system will be identified by the telephone directory code names of the headquarters connected by the system. For example, the radio relay link between division headquarters and 1st Battle Group, 61st Infantry, is called the DEXTER-DELEGATE system.
3. A terminal station located at the division headquarters will be called the A terminal. The A terminal is the control station for the system it serves. There is one A terminal for each link, or system.
4. The terminal located at the subordinate headquarters is called the B terminal.
5. When a radio relay station is established between two terminal stations, it is designated

Page 1 of 3 pages

SOI ITEM 25-2
(CLASSIFICATION)

(CLASSIFICATION)

radio relay No. 1. When additional radio relay stations are required between the same two terminal stations, they are designated radio relay No. 2, radio relay No. 3, etc.

6. The numbers appearing after the letters A and B in SOI ITEM NO. 25-() are explained as follows:

<u>System</u>	<u>Frequencies (mc)</u>	
DEXTER-DELEGATE	A-77.9	B-94.3
	75.7	79.6

- a. DEXTER-DELEGATE designates the system linking division headquarters with 1st Battle Group, 61st Infantry.
- b. The letter A indicates that DEXTER is the A terminal and will transmit on a frequency of 77.9 mc. The letter B indicates that the B terminal is located at the regimental headquarters named DELEGATE and will transmit on a frequency of 94.3 mc. The set of numbers appearing below the first line of frequencies are alternate transmitting frequencies.
7. Alternate frequencies are assigned for use at times when it is desirable or necessary to do so. They will be used only at the direction of the

Page 2 of 3 pages

SSI ITEM 25-2
(CLASSIFICATION)

(CLASSIFICATION)

division signal officer. In the event of enemy jamming, notify the division signal officer immediately, requesting permission to use the alternate frequency if this is deemed advisable.

8. When there is interference on the circuits at a radio relay station, the station will continue to operate on low power. Every effort will be made to determine the identity and operating frequency of the interfering station. The division signal officer will be notified immediately of the action taken and the results obtained.

FOR THE COMMANDER

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Colonel

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/s/ Wellington
WELLINGTON
Signal Officer

Page 3 of 3 pages

SSI ITEM 25-2
(CLASSIFICATION)

(CLASSIFICATION)
STANDING SIGNAL INSTRUCTIONS
ITEM NO. 30-1

HQ 20TH INFANTRY DIV APO 20 WIRE TAGGING CODE

EFFECTIVE 010001 Aug 61

1. A wire tagging system consisting of distinctive wire tags and telephone code names will be used by all units responsible for laying and maintaining wire communication lines.
2. Wire tags will be cut in distinctive patterns, as shown in SOI ITEM NO. 30- ().
3. Telephone directory code names assigned in SOI ITEM NO. 31- () will be used.
4. The tags used on a wire line contain the distinctive pattern assigned to the unit responsible for laying and maintaining the line. The telephone directory code name of the unit laying the wire will be printed on one side of the wire tag, and the code name of the unit to which the line is being laid will be printed on the other side.

FOR THE COMMANDER

BRATTON
Colonel

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SSI ITEM 30-1
(CLASSIFICATION)

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/s/ Wellington
WELLINGTON
Signal Officer

Page 2 of 2 pages

SSI ITEM 30-1
(CLASSIFICATION)

(CLASSIFICATION)
STANDING SIGNAL INSTRUCTIONS
ITEM NO. 31-1

HQ 20TH INFANTRY DIV APO 20 TELEPHONE DIRECTORY

EFFECTIVE 010001 Aug 61

1. Telephone directory code names and numbers are assigned in SOI ITEM NO. 31-(). The names and numbers listed therein, and the numbers listed in this SSI item for offices, are prescribed for all telephone users and operating personnel. The names and numbers are not intended for security, but to speed the handling of telephone calls. A list of locally used telephone directory names and numbers should be provided at each telephone to prevent confusion and to reduce operating time spent by switchboard operators in providing directory service.
2. Telephone directory numbers are assigned to offices and activities as follows, for common use throughout the division:

<u>Office</u>	<u>No.</u>	<u>Office</u>	<u>No.</u>
ACofS G1 (S1)	1	Quartermaster	21
ACofS G2	2	Artillery Officer	22
ACofS G3	3	Chemical (CBR) Officer	23

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SSI ITEM 31-1
(CLASSIFICATION)

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<u>Office</u>	<u>No.</u>	<u>Office</u>	<u>No.</u>
ACofS G4	4	Liasion Officer	24
Chief of Staff (ExO)	5	Div Ammunition Officer	25
CG (CO)	6	Rad/wire Inte- gration Sta	26
AG (Adjutant)	7	Provost Marshal	27
Ordnance Officer	8	Radio Station	28
Inspector General	9	Reconnaissance Officer	29
Signal (Comm) Officer	10	Teletypewriter Office	30
*	*	*	*

3. The following procedures will be applied by users of the division telephone system:
- a. An activity whose telephone is not assigned a number will be identified by an appropriate abbreviation or word description of the activity. For example, if division observation post number 1 is not assigned a directory number, a caller may ask the switchboard operator for DEXTER OP NUMBER 1. The need for use of this procedure will be kept at a minimum by submitting requirements for additional directory numbers to the division signal officer for action.

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SSI ITEM 31-1
(CLASSIFICATION)

(CLASSIFICATION)

- b. The caller will give the telephone directory code name and number of the called party to the switchboard operator, as shown in the following examples:

<u>Activity called</u>	<u>Designation</u>
CG, 20th Inf Div	DEXTER 6
S3, 20th Sig Bn	DAZZLE 3
ExO, Co A, 1/61 Inf	DEADEYE ALPHA 5
CO,Hq Co, 20th Engr	DYNAMITE
Comb Bn	BLACK 6
Div Adv Radio/Wire	DEXTER
Integration Sta	ADVANCE 26
Msg Cen, Div Fwd	DEXTER
Sig Cen B	BRAVO 11

- c. Telephone directory designations will not be used interchangeably with radio callwords, except as directed in SSI Item No. 20.8-().
- d. Telephone directory designations will not be used in reference to activities, offices, or organizations in the text of a message or other communication, except as directed in SSI Item No. 20.8-().

FOR THE COMMANDER

BRATTON
Colonel

Page 3 of 4 pages

SSI ITEM 31-1
(CLASSIFICATION)

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WELLINGTON
Signal Officer

Page 4 of 4 pages

SSI ITEM 31-1
(CLASSIFICATION)

(CLASSIFICATION)
STANDING SIGNAL INSTRUCTIONS
ITEM NO. 40-1

HQ 20TH INFANTRY DIV APO 20
PYROTECHNIC & SMOKE SIGNALS

EFFECTIVE 010001 Aug 61

1. The pyrotechnic signals prescribed in paragraph 1, SOI ITEM NO. 40-(), will be used by ground troops to transmit the prearranged messages indicated. Pyrotechnic signals will be used only when reliable signal communication by other means is not available.
2. The pyrotechnic signals prescribed in paragraph 2, SOI ITEM NO. 40-(), will be used to transmit prearranged messages by aircraft.
3. Pyrotechnic signals M18A1, M19A1, M21A1, M22A1, M51A1, and M52A1 will be fired from rifle M1 by launcher grenade M7 or M7A1. The M8 grenade launcher will be used to fire the pyrotechnic signals from the carbine.
4. Pyrotechnic signals AN-M44A1, AN-M45, and AN-M45A1 will be fired with projector, pyrotechnic, hand, M-9, or with pistol, pyrotechnic, AN-M8.

* * * *

Page 1 of 2 pages

SSI ITEM 40-1
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Page 2 of 2 pages

SSI ITEM 40-1
(CLASSIFICATION)

(CLASSIFICATION)
STANDING SIGNAL INSTRUCTIONS
ITEM NO. 42-1

HQ 20TH INFANTRY DIV APO 20
VEHICULAR IDENTIFICATION MARKINGS

EFFECTIVE 010001 Feb 62

1. The panel displays indicated in paragraph 1, SOI ITEM NO. 42-(), will be used to prevent bombing or strafing of friendly vehicles by friendly aircraft.
2. Only frontline vehicles, or vehicles passing through contested or questionable area are authorized to display the panels. Vehicles operating in rear area are prohibited from using the displays.
3. Instructions pertaining to the air-ground recognition signals prescribed in SOI ITEM NO. 10-() are not affected by this item.

* * * * *

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Page 1 of 1 page

SSI ITEM 42-1
(CLASSIFICATION)

(CLASSIFICATION)
 STANDING SIGNAL INSTRUCTIONS
 ITEM NO. 44-1

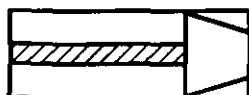
HQ 20TH INFANTRY DIV APO 20 VISUAL & SONIC SIGNALS

EFFECTIVE 010001 Aug 61

1. Visual Signals.

Panels of panel set AP-30-(), panel signal VS-17GVX, or improvised substitutes, constructed for quick attachment and removal atop vehicles in column, will be used.

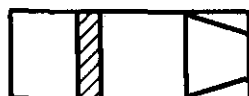
MARCH MSG CEN



MSG FOR ACFT PICK-UP



LEAD VEH OF COLUMN



LAST VEH OF COLUMN



FMII-16-18

Page 1 of 3 pages

SSI ITEM 44-1
 (CLASSIFICATION)

(CLASSIFICATION)

2. Sonic Signals.

a. Air or Ground Attack. Warning will be three long blasts of a whistle, vehicular horn, siren, or klaxon, repeated several times; three equally timed shots of an individual weapon; or three short bursts of machinegun fire. During daylight, the individual giving the warning will point in the direction from which the attack is coming. At night, the direction will be indicated by voice.

b. Airplane Spray Attack. Warning will be given by the cry, SPRAY. The warning will be given only when enemy aircraft begin a spray attack, or when detector paint M5 or vesicant detector paper M6 gives indication that a spray attack has been made. When the cry, SPRAY, has been given, the standard percussion gas alarm will not be sounded.

c. Gas Attack (other than spray). Gas warning is made by the cry, GAS, accompanied by percussion sounds, such as those produced by bells, triangles, iron rails, and empty

* * * * *

Page 2 of 3 pages

SSI ITEM 44-1

(CLASSIFICATION)

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FOR THE COMMANDER

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SSI ITEM 44-1
(CLASSIFICATION)

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By Order of *Wilber M. Brucker*, Secretary of the
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MAXWELL D. TAYLOR,
General, United States Army,
Chief of Staff.

Official:

HERBERT M. JONES,
Major General, United States Army,
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NG: State AG (6) ; units—same as Active Army except allowance
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unit.

For explanation of abbreviations used, see AR 320-50.